

E.H. WACHS

WACHS



E.H. WACHS®

Superior Equipment. Complete Support.

PORTABLE WELD PREP MACHINE TOOLS



**INDUSTRIAL
PIPE CUTTING &
BEVELING PRODUCTS**

ehwachs.com



ORBITAL
CUTTING & WELDING
itw-ocw.com

Cut. Prep. Weld.



ITW Orbital Cutting & Welding
U.S. Headquarters



ITW Orbital Cutting & Welding
Europe Headquarters



E.H. Wachs All New
DynaPrep MDSF Split Frame



Orbitalum GF4
Tube & Pipe Saw

ITW | **ORBITAL CUTTING & WELDING** Cut. Prep. Weld. One Source.

WORLD CLASS PRODUCTS

ITW Orbital Cutting & Welding manufactures the world's most complete line of portable tube and pipe cutting, facing and beveling products and accessories, in addition to a complete line of advanced high purity orbital welding systems. The group includes E.H. Wachs based in Lincolnshire, Illinois and Orbitalum Tools, based in Singen, Germany. Together we offer our users One Source for the products used to Cut. Prep. Weld.

E.H. Wachs is the world's premier manufacturer of portable weld prep machine tools used for pipe cutting, beveling, counterboring and facing. Products include our brand new DynaPrep MDSF, part of the most comprehensive line of split frame pipe cutters and bevelers offered anywhere. Other products include our famous Trav-L-Cutter, Guillotine Pipe Saws, and EP424 and SDB series of end prep machines.

Orbitalum Tools (formerly known as GF) is the leading manufacturer of high purity cutting products and orbital welding systems. Products include the GF and GFX series of pipe saws, the RPG series of facing machines, the BRB boiler machines, and the advanced Orbimat 165CA and matching weld heads. For additional information on the complete Orbitalum lineup ask your Wachs representative, request an Orbitalum catalog or learn more at orbitalum.com.

Sold and supported worldwide (with most available for rental), ITW Orbital Cutting & Welding products are built to world class standards under ISO 9001. Starting with the finest materials, each and every machine is individually hand assembled and fully tested before shipment.



ISO 9001

A DIVISION OF ITW WELDING

ITW Orbital Cutting & Welding joins other welding related companies in the ITW Welding products group, further strengthening our position as the premier global supplier of advanced machine tools for tube and pipe. ITW Welding is an operating unit of Illinois Tool Works, a Fortune 150 global industrial manufacturer with operations in 58 countries, 60,000 worldwide employees and annual revenues of \$18 billion USD.

When you purchase a machine from E.H. Wachs, you gain access to the entire global engineering, sales and product resources of ITW. Other well known names in ITW Welding include Miller Electric based in Appleton, Wisconsin, and Hobart Brothers based in Troy, Ohio. With a complete roster of best in class brands, ITW Welding offers users One Source for integrated welding solutions including weld preparation, pre-heating, welding, insulation and non destructive testing.

One Source.



E.H. WACHS®
ehwachs.com



orbitalum
orbitalum.com

PRIMARY MARKETS

ITW Orbital Cutting & Welding products cover a wide range of applications in a broad spectrum of industries. E.H. Wachs and Orbitalum offer machines and accessories to tackle most projects encountered by the field machinist, including facing, counterboring, flange facing and socket weld removal. Used in construction, maintenance and repair operations (MRO) and decommissioning, our primary industrial markets include:

OIL & GAS

Upstream, midstream and downstream, anywhere pipe and vessels are employed you'll find Wachs products. Our experience in Oil & Gas dates back to 1949 with the introduction of our revolutionary Trav-L-Cutter designed to replace hot torch cutting and grinding. Today E.H. Wachs remains at the forefront of cold cutting machine tool technology, and is the superior choice anywhere volatile hydrocarbons are present. E.H. Wachs builds machine tools specifically for well head completion, maintenance and repair, and valve exercising and operation.

POWER GENERATION

The Power Generation industry is characterized by the drive for greater efficiency and power output. Part of this effort involves higher steam pressures, necessitating the use of exotic alloys and heavier wall pipe schedules for safety and durability. E.H. Wachs machine tools are optimized for power generation, and built to deliver more power and precision for these demanding schedules, materials and processes. Many machines are offered with remote control options to remove the operator from risks related to extreme environments.

PIPELINE DISTRIBUTION

Pipelines and the materials they transport are a vital part of the energy landscape. E.H. Wachs products are ideal for construction, repair and replacement activities on the extensive network of gathering, transportation and distribution pipelines carrying oil, natural gas and petrochemical products. Heavy duty and large diameter split frames and pipe saws are offered to tackle the biggest jobs.

HIGH PURITY PROCESS PIPING

High Purity includes those industries that make use of high alloy and stainless steel tubing, such as semiconductor, aerospace, pharmaceutical, and food, dairy and beverage. These applications typically require perfectly executed, highly repeatable and measurable welds, often subject to the most rigorous record keeping and inspection requirements.



Power Generation



Oil and Gas



Pipeline Distribution



High Purity Process Pipe

COMPANY Information



Early pipe fitting



Field machining today
with Wachs LCSF



All new DynaPrep MDSF
machine tool



Machined split frame rings



E.H. WACHS®

A Division of **TW**

Superior Equipment. Complete Support.™

ABOUT E.H. WACHS

Designed for onsite cutting, beveling, counterboring and facing of tube, pipe and vessels, E.H. Wachs products are the first choice of machining professionals in the power generation, oil and gas and pipeline distribution industries, among many others. Engineering excellence, precision manufacturing, meticulous hand assembly and support before and after the sale are what set E.H. Wachs products apart.

Built on a solid foundation of engineering and manufacturing excellence, we're dedicated to continuing the quality and spirit of innovation pioneered by our founder, Edward H. Wachs, in 1883. All Wachs and Orbitalum products are designed and built to world class standards under ISO 9001:2008, and are sold and supported worldwide.

A PARTNER, NOT A COMPETITOR

When you purchase an E.H. Wachs product, you're not just buying a tool - you're acquiring ownership in the most complete, versatile portable machining system offered anywhere. This means the equipment you buy today will be supported with the training, service, parts and upgrades that keep these machines working in the field, day in and day out, year after year.

We support our standard machines with a great warranty, but support means more at E.H. Wachs. Support starts with expert salesmen, each with years of field experience and knowledge about your industry. Support includes dedicated factory Customer Service representatives who know you and your business. Support includes training options, at your location or ours, by our factory trained technicians. Support also means that, unlike other machine tool manufacturers, when you partner with E.H. Wachs for equipment you're not competing against us for service.

ABOUT THIS CATALOG

This newest edition of the E.H. Wachs® Industrial Catalog highlights the most comprehensive lineup of portable weld prep machine tools we've ever offered. This expanded edition contains new features including application information, part numbers, descriptions and photos for most of our major product lines. E.H. Wachs standard machines are now available to cover an astonishing range of diameters, from 1/8in up to 120in O.D. (3-3048mm), with additional sizes available by special order.

It's organized with O.D. mounted machines such as the Split Frames and Trav-L-Cutter at the front, I.D. mounted machines including the EP 424 and SDB and FF series in the middle, followed by specialized machines like our ECC and EICC Casing Cutters, Weld Coupon Stations and the handheld RS-2 valve operators. We close highlighting Genuine Wachs Tooling, parts and service, technicians and training, and equipment rentals.

CONTENTS

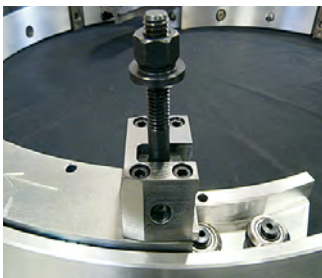
ABOUT THE COMPANY	1	
O.D. MOUNTED MACHINE TOOLS	5	
SDSF SMALL DIAMETER SPLIT FRAME	7	
LCSF LOW CLEARANCE SPLIT FRAME	15	
DYNAPREP MDSF SPLIT FRAME	27	
HDSF HEAVY DUTY SPLIT FRAME	35	
LDSF LARGE DIAMETER SPLIT FRAME	39	
TRAV-L-CUTTER PIPE CUTTER	43	
GUILLOTINE PIPE SAW	49	
I.D. MOUNTED MACHINE TOOLS	53	
EP 424 END PREP MACHINE	55	
SDB SMALL DIAMETER BEVELER	61	
FF FLANGE FACER	65	
POWER SUPPLIES	71	
HYDRAULIC POWER UNITS	72	
ELECTRIC POWER DRIVE	74	
PNEUMATIC ACCESSORIES	76	
SPECIALTY MACHINES	79	
SERVICE AND SUPPORT	86	



DynaPrep form tool cutting



Redesigned for more torque



Aluminum stationary frame with steel rotating ring



DynaPrep tool slides are indexed to the rotating ring

DynaPrep

NEW

MODULAR DESIGN SPLIT FRAME

INTRODUCING DYNAPREP

As the needs of the field machinist have evolved, E.H. Wachs products have evolved to meet those needs. Our users asked for bigger form tooling capabilities, a more productive user experience, all while delivering greater precision and faster operation. Introducing the DynaPrep MDSF split frame, E.H. Wachs latest example of advanced cutting innovation.

Expanding on our industry leading LCSF (Low Clearance Split Frame), DynaPrep represents the pinnacle of cold cutting split frame technology. Retaining the class leading portability and versatility that distinguishes our LCSF, DynaPrep accepts greater power to pull bigger chips, and is built tougher to withstand additional torque. It offers so many patent pending features that make it so easy to use you'll wonder why nobody thought of them before.

ADVANCED CONSTRUCTION

Unlike solid steel machines, the DynaPrep MDSF retains the advanced light-weight aluminum and steel construction to maintain the portability and one man setup and operation that characterizes our industry-leading LCSF.

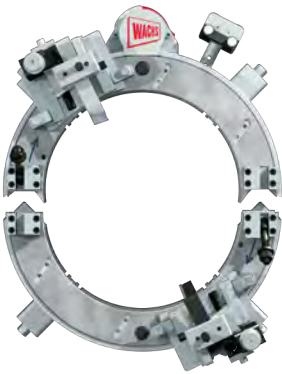
DynaPrep includes stamped system indexing, where major assemblies are indexed to simplify setup and promote repeatability. The tool slides are indexed to the rotating ring, the trip is indexed to the tool slides, even the tooling advance is indexed. It makes it virtually impossible to damage a valuable split frame by crashing parts together that have been incorrectly setup.

ADVANCED INNOVATION

The DynaPrep MDSF is the first machine designed from the ground up to conform to the industry trend of moving operators away from rotating machinery. Available remote control pneumatic and electric trips are designed to engage and disengage the starwheel tooling advance. There are new handheld controls for our more powerful air motors, and a handheld pendant control for Wachs EPD (Electric Power Drive,) our portable electric drive unit.

The DynaPrep MDSF is yet another in a long string of innovations from the pioneer in portable machining technology. Building on the early success of the Trav-L-Cutter, Wachs introduction of the LCSF split frame set a high bar for all the imitators that would follow. No matter if called a split frame, a clam shell, or a rotating ring cutter, none has matched the success or inspired the loyalty of E. H. Wachs LCSF. Now we've done it again, setting the bar higher still with the DynaPrep MDSF.

O.D. Mounted Machine Tools



Split frame unbolted
for O.D. mounting



Split frame
bolted together

E.H. Wachs machine tools can be specified by the mounting method used - our machines can be broadly divided into O.D. mounted machines and I.D. mounted machines. O.D. mounted machines mount around the outside of a pipe or vessel and, with the exception of Wachs Guillotine saws, are characterized by their ability to simultaneously cut and bevel. This elevates our O.D. mounted machines into the weld prep category, as opposed to the I.D. mounted machines which fall largely into the end prep category.

E.H. Wachs O.D. mounted split frames are more than just cutting tools - they're part of a complete machining system designed to handle the most common needs encountered by the field machinist. Properly equipped Wachs split frames can perform a wide range of tasks including counterboring and deep counterboring, flange facing, single point machining, axial and radial socket weld removal, trepanning, and external and internal casing cutting to name just a few.

Our O.D. mounted machines include the entire family of Wachs split frames, five distinct series named after their ability to split in half to mount around inline pipe. From smallest to largest they're the SDSF Small Diameter Split Frame, the industry leading LCSF Low Clearance Split Frame, the brand new DynaPrep MDSF, the steel HDSF Heavy Duty Split Frame and the range topping steel LDSF Large Diameter Split Frame, designed for larger tanks and vessels.

Other O.D. mounted products include our pioneering cold cutting Trav-L-Cutter, which rotates on its drive tensioning chain and can accommodate virtually limitless diameters by adding additional chain sections. For destructive cutting our proven Guillotine series of reciprocating saws (widely known in the field as the "Wachs Saw") are unmatched for simplicity and durability. Learn more about E.H. Wachs I.D. mounted machines beginning on page 53.



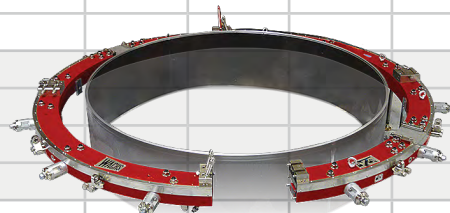
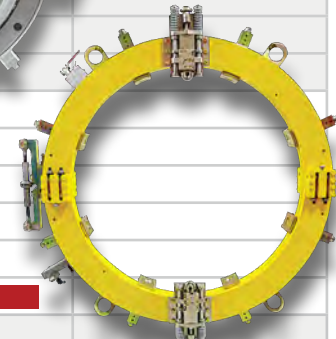
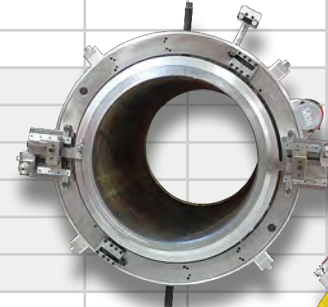
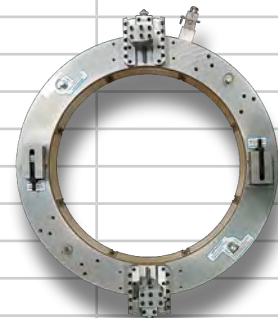
Guillotine Super C
"Wachs Saw"



Trav-L-Cutter
Model HE Hydraulic

O.D. Mounted Machine Tools - Pipe Ranges

		1/2in 13mm	12in 305mm	24in 610mm	36in 914mm	48in 1219mm	60in 1524mm	72in 1829mm	90in 2286mm	120in 3048mm
SDSF	SDSF 1.0									
	SDSF 2.0									
	SDSF 3.0									
	SDSF 4.0									
	SDSF 5.0									
	SDSF 6.0									
LCSF	LCSF 206									
	LCSF 408									
	LCSF 610									
	LCSF 612									
	LCSF 814									
	LCSF 1016									
	LCSF 1420									
	LCSF 1824									
	LCSF 2228									
	LCSF 2632									
	LCSF 3036									
	LCSF 3642									
	LCSF 4248									
	LCSF 4248									
DYNA PREP	MDSF 612									
	MDSF 814									
	MDSF 1016									
	MDSF 1218									
	MDSF 1420									
	MDSF 1824									
HDSF	HDSF 1224									
	HDSF 2436									
	HDSF 3648									
	HDSF 4860									
	HDSF 6072									
	HDSF 7284									
LDSF	LDSF 75									
	LDSF 90									
	LDSF 105									
	LDSF 120									
TRAV-L-CUTTER	MODEL E (PNEUMATIC)									
	MODEL HE (HYDRAULIC)									
GUILLOTINE	SUPER C									
	MODEL D									
	SUPER D									
	GOLIATH									



SDSF Small Diameter Split Frame



Axial Tool Slide accessory
for socket weld removal



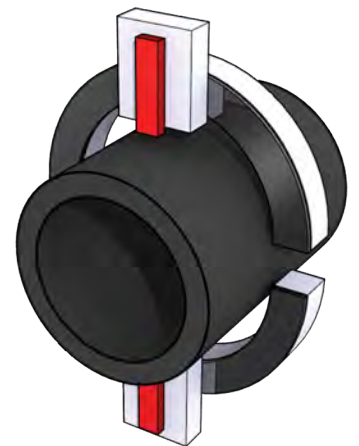
Wheel Cutting Module
accessory for FME cutting



Counterbore attachment
fits all models

OPTIMIZED FOR LOW-CLEARANCE ENVIRONMENTS

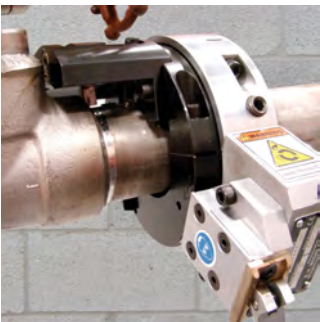
E.H. Wachs® SDSF Small Diameter Split Frames are the smallest, most compact member of the Wachs split frame family, and are designed for cutting, beveling and counterboring pipe and tubing from OD 0.5in - 6in (DN 15 - 150). Like all E.H. Wachs split frame clamshell style machines the SDSF is designed to "split" in half to fit over inline pipe, or can be slipped closed over open ended pipe. Six models are available in 1in (25.4 mm) increments, with additional sizes available by special order. The SDSF serves as the basis of Wachs axial and radial socket weld removal kits that remove the weld without sacrificing the base material, an important consideration in complex assemblies.



SDSF Small Diameter Split Frame - Overview



Wheel cutting



Socket Weld Removal



Bevel prep



Front Drive Pinion

PORTABLE PIPE CUTTING AND BEVELING MACHINES (LOW RANGE)

- SDSF quickly splits open to mount around the OD of inline pipe
- Machines carbon steel, stainless steel and alloys, e.g. Hastelloy™, Inconel™ and other high-performance materials
- Cuts and bevels up to 0.438in (11.1 mm) wall thickness
- Low clearance design requires minimal space for setup and operation
- Self-squaring pipe clamping system, using either collets or integrated, close tolerance legs with wide feet stability
- Low friction adjustable bearing system provides maximum stability and extended machine life
- Fully enclosed bearing and drive gear system for operational safety
- Infinite motor positioning
- Modular tool slides
- Lever type trip actuation for safety
- Spring loaded axial trip for crash resistance
- Improved radial trip geometry for crash resistance and durability
- Improved bearing adjustment design
- Improved durability in pinion gear bearing arrangement
- Easier assembly and disassembly of frame halves
- Improved sealing for chip exclusion
- Captive fasteners used for all accessories
- Reduced fastener count for simplified inventory. Only 3 hex wrench sizes required to operate machine
- All pipes 1in - 6in (DN 15 - 150) can mount, depending on sizes, using collets or clamp feet

SMALL SIZE, BIG CAPABILITIES

The SDSF is ideal anywhere pipe and tube are arrayed in tight places and finds many uses in power generation, oil and gas and the shipbuilding industries. The SDSF operates on air or electric power using standard Wachs motors and adapters and is part of a complete system that includes a broad range of tool slides and accessories for maximum versatility. As with all E.H. Wachs products, the Small Diameter Split Frame is built with Wachs legendary quality and durability for years of reliable service.

The SDSF, like all Wachs split frames, is designed to simultaneously cut and bevel pipe and tube with Wachs parting and beveling tool slides. It's also the basis of Wachs specialized Socket Weld Removal kits, in both axial and radial configurations. The FME (Foreign Material Exclusion) chipless cutting module makes the SDSF the perfect split frame for the high purity market. So while the SDSF is Wachs smallest split frame, it's big in capabilities.

SOCKET WELD REMOVAL

SDSF split frames are the building block of Wachs socket weld removal machines. They're designed to remove couplers and elbows from existing piping systems by machining away the weld material that joins them. This is done without sacrificing the base material – a vital consideration in the repair or modification of complex process systems. These machines are all new designs incorporating all that we've learned from years of socket weld removal experience. They're the easiest to use and most productive socket weld removal machines offered anywhere.

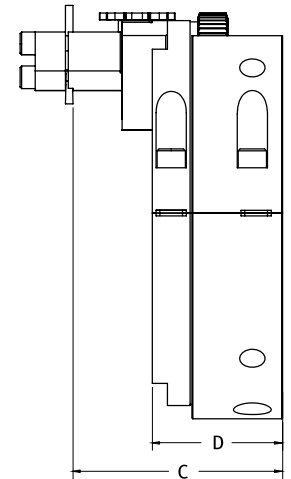
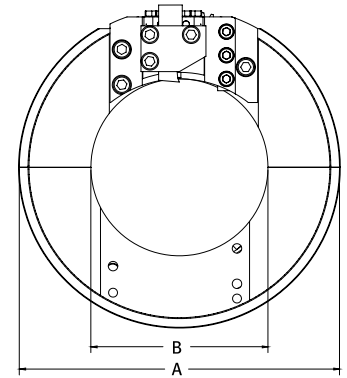
SDSF Small Diameter Split Frame - Specifications

FOREIGN MATERIAL EXCLUSION (FME)

Wachs FME (Foreign Material Exclusion) is a chipless wheel cutting module designed for use with the SDSF. FME is critical in high purity and process applications where the introduction of chip debris cannot be tolerated. Examples include the food, dairy and pharmaceutical industries and the highly disciplined and controlled power generation field.

SPECIFICATIONS	UNITS	SDSF 1.0	SDSF 2.0	SDSF 3.0	SDSF 4.0	SDSF 5.0	SDSF 6.0
MACHINE CAPACITY OD	The machine capacity depends on the mounting system and on the operating method.						
DIMENSION A MACHINE OD	mm	127	144.5	174.5	198.5	227	252.4
	inch	5.000	5.688	6.871	7.812	8.938	9.938
DIMENSION B MACHINE ID	mm	39.7	66.7	95.25	120.7	149.3	174.7
	inch	1.562	2.626	3.750	4.750	5.875	6.875
DIMENSION C PARTING LINE	mm	88.1	88.1	88.1	88.1	88.1	88.1
	inch	3.468	3.468	3.468	3.468	3.468	3.468
DIMENSION D MACHINE THICKNESS	mm	64.3	54.7	54.7	54.7	54.7	54.7
	inch	2.530	2.155	2.155	2.155	2.155	2.155
SYSTEM FUNCTION	Part off, bevel and counterbore pipe and tube; radial and axial socket weld removal; wheel cutting						
CUTTING TOOL SURFACE SPEED	10 m/min, 2in 40 sf/m 4in						
DRIVE OPTIONS	Pneumatic or electric						
AIR REQUIREMENTS	[m³/min]	1 at 6.2 bar					
	[ft³/min]	35 at 90 psi					
ELECTRICAL REQUIREMENTS	230/120 Volt						
FEED METHOD	Star wheel						
FEED RATE	Fixed at 0.0031in (0.079 mm) per trip						
CONSTRUCTION	Alloy steel						
TOOL SLIDE	Radial or axial feed, cut and bevel, counterbore, FME module						
TOOL STROKE	11.9 mm (0.468in)						
FINISH	Hard chrome coating						
TOOLING	Axial or radial socket weld removal tooling, cut/bevel tooling. High speed steel or carbide						
PACKAGING	Heavy duty carrying case						
STANDARD EQUIPMENT	Self squaring mounting system, pinion housing, heavy duty watertight carrying case, operating hand tools, operating manuals						
OPTIONAL EQUIPMENT	Electric drive, tooling, axial feed tool slide, radial feed tool slide set, bench mount, front drive pinion housing, counterbore attachment, FME tool slide, aluminum collet sets, clamp pads sets, radial socket weld slide						

Add frames, slides, collets or legs, drive, collet nut and spanner wrench for complete machine. See individual ring size accessory listings on the following pages.



SDSF Small Diameter Split Frame - Kits



Axial Slide for
Socket Weld Removal



Wheel Cutting Module for
FME Cutting



Standard Storage Case



Counterbore attachment
fits all models

SDSF SMALL DIAMETER SPLIT FRAME KITS

For socket weld removal.

STANDARD EQUIPMENT:

- Frame assemblies 1in and 2in (DN 25 and DN 50)
- Axial and/or radial feed socket weld removal tool slides 1in and 2in (DN 25 and DN 50)
- Aluminum collets for pipes with Ø:
0.5in / 0.75in / 1in / 1.25in / 1.5in / 2in (12.7 / 19.05 / 25.4 / 31.75 / 38.1 / 50.8 mm)
- Clamp foot and extension leg kit for 2in (50.8 mm) frame
- 1 Air drive
- Spare fastener kit
- Storage case
- Operating hand tools
- Manual

* Machine 25.4 (1in) is collet only.

ITEM	DRIVETYPE	PIPE OD		CODE	PART NUMBER
		mm	inch		
SDSF Kit "Axial Feed"	Pneumatic	12.7 - 50.8	0.5 - 2	ON REQUEST	80-0000-AX
SDSF Kit "Radial Feed"	Pneumatic	12.7 - 50.8	0.5 - 2	ON REQUEST	80-0000-RA

SPLIT FRAMES

Add slides, collets or legs, drive, collet nut and spanner wrench for complete machine.
See individual ring size accessory listings on the following pages.

STANDARD EQUIPMENT:

- Individual Split Frame*
- Pinion housing
- Storage case
- Spare fastener kit
- Hand tools
- Manual

ITEM	PIPE OD		CODE	PART NUMBER
	[DN]	inch		
SDSF Split Frame 1.0*	25	1	980 400 010	80-4000-10
SDSF Split Frame 1.5* / **		1.5	980 400 015	80-4000-15
SDSF Split Frame 2.0	50	2	980 400 020	80-4000-20
SDSF Split Frame 2.5**		2.5	980 400 025	80-4000-25
SDSF Split Frame 3.0	80	3	980 400 030	80-4000-30
SDSF Split Frame 3.5**		3.5	980 400 035	80-4000-35
SDSF Split Frame 4.0	100	4	980 400 040	80-4000-40
SDSF Split Frame 5.0**	125	5	980 400 050	80-4000-50
SDSF Split Frame 6.0**	150	6	980 400 060	80-4000-60

* Machines 25.4 (1in) and 38.1 (1.5in) is collet only.

** Special sizes on request.

SDSF Small Diameter Split Frame - Collets

ALUMINUM COLLETS AND COLLET ACCESSORIES

Please specify when ordering customized tools:

Pipe/tube true OD, material (aluminum, delrin, stainless), collet size markings (mm or inch). Collets require collet nut and spanner wrench when purchased with individual SDSF machine.

ITEM	CODE	PART NUMBER
Customized aluminum collets for SDSF 1.0 to SDSF 3.5	ON REQUEST	ON REQUEST
Customized aluminum collets for SDSF 4.0 to SDSF 6.0	ON REQUEST	ON REQUEST
Collet kit for SDSF 1.0 Includes: • aluminum collets for pipe OD: 0.5in, 0.75in, 1in (12.7, 19.05, 25.4 mm) • 1 collet nut • 1 spanner wrench	980 520 110	80-5201-10
Collet kit for SDSF 1.5 Includes: • aluminum collets for pipe OD: 1in, 1.25in, 1.5in (25.4, 31.75, 38.1 mm) • 1 collet nut • 1 spanner wrench	980 520 115	80-5201-15
Collet kit for SDSF 2.0 Includes: • aluminum collets for pipe OD: 1.25in, 1.5in, 2in (31.75, 38.1, 50.8 mm) • 1 collet nut • 1 spanner wrench	980 520 120	80-5201-20
Collet kit for SDSF 2.5 Includes: • aluminum collets for pipe OD: 1.5in, 2in, 2.5in (38.1, 50.8, 63.5 mm) • 1 collet nut • 1 spanner wrench	980 520 125	80-5201-25
Collet kit for SDSF 3.0 Includes: • aluminum collets for pipe OD: 2in, 2.5in, 3in (50.8, 63.5, 76.2 mm) • 1 collet nut • 1 spanner wrench	980 520 130	80-5201-30
Collet kit for SDSF 3.5 Includes: • aluminum collets for pipe OD: 2.5in, 3in, 3.5in (63.5, 76.2, 88.9 mm) • 1 collet nut • 1 spanner wrench	980 520 135	80-5201-35
Collet kit for SDSF 4.0 Includes: • aluminum collets for pipe OD: 3in, 3.5in, 4in (76.2, 88.9, 101.6 mm) • 1 collet nut • 1 spanner wrench	980 520 140	80-5201-40
Collet kit for SDSF 5.0 Includes: • aluminum collets for pipe OD: 4in, 5in (101.6, 127.0 mm) • 1 collet nut • 1 spanner wrench	980 520 150	80-5201-50
Collet kit for SDSF 6.0 Includes: • aluminum collets for pipe OD: 5in, 6in (127.0, 152.4 mm) • 1 collet nut • 1 spanner wrench	980 520 160	80-5201-60
Collet nut for SDSF 1.0	980 000 710	80-0007-10
Collet nut for SDSF 1.5	980 000 715	80-0007-15
Collet nut for SDSF 2.0	980 000 720	80-0007-20
Collet nut for SDSF 2.5	980 000 725	80-0007-25
Collet nut for SDSF 3.0	980 000 730	80-0007-30
Collet nut for SDSF 3.5	980 000 735	80-0007-35
Collet nut for SDSF 4.0	980 000 740	80-0007-40
Collet nut for SDSF 5.0	980 000 750	80-0007-50
Collet nut for SDSF 6.0	980 000 760	80-0007-60
Spanner wrench for SDSF 1.0 to SDSF 2.5	990 800 780	90-800-78
Spanner wrench for SDSF 3.0 to SDSF 4.0	990 800 790	90-800-79
Spanner wrench for SDSF 5.0 to SDSF 6.0	990 800 800	90-800-80



Aluminum Collet



Collet nut for SDSF



Spanner Wrench for SDSF



Radial Feed Tool Slide Kit

SDSF Small Diameter Split Frame - Slides



Axial socket weld removal slide



Radial socket weld removal slide



Counterbore Tool Slide

TOOL SLIDE AND TRIP ASSEMBLIES

ITEM	CODE	PART NUMBER
Tool slide and trip assemblies for SDSF 1.0		
Radial feed parting tool slide.	980 410 110	80-4101-10
Radial feed beveling tool slide.	980 410 210	80-4102-10
Radial feed tool slide trip assembly. For SDSF 1.0 to SDSF 6.0.	980 410 300	80-4103-00
Radial feed tool slide kit. Includes: 1 parting slide 1 beveling slide 1 trip assembly	980 510 110	80-5101-10
Radial feed socket weld removal tool slide. Used with the SDSF for removal of socket welds, the radial slide requires less axial clearance. The tooling is advanced to the pipe center line (radially) to remove the weld material. Also available as a complete Radial Socket Weld Removal Kit.	980 410 010	80-4100-10
Axial feed socket weld removal tool slide. Used with the SDSF for removal of socket welds, the axial slide requires less radial clearance. The tooling is advanced axially along the pipe to remove the weld material. Also available as a complete axial socket weld removal kit.	980 410 410	80-4104-10
Axial feed tool slide trip assembly. For SDSF 1.0 to SDSF 6.0.	980 410 500	80-4105-00
Axial feed tool slide kit. Includes: 1 axial slide 1 trip assembly	980 510 210	80-5102-10
Universal counterbore slide. Designed for perfect counterboring of the pipe or tube inside diameter, the universal counterbore fits all Wachs SDSF ring set. Utilizes a simple and effective hand advance to precisely control the counterbore. For SDSF 1.0 to SDSF 6.0.	980 410 700	80-4107-00
Tool slide and trip assemblies for SDSF 1.5, SDSF 2.0 and SDSF 2.5		
Radial feed parting tool slide (Standard).	980 410 120	80-4101-20
Radial feed beveling tool slide (Standard).	980 410 220	80-4102-20
Radial feed tool slide trip assembly (Standard). For SDSF 1.0 to SDSF 6.0.	980 410 300	80-4103-00
Radial feed tool slide kit (Standard). Includes: 1 parting slide 1 beveling slide 1 trip assembly	980 510 120	80-5101-20
Radial feed socket weld removal tool slide (Standard).	980 410 020	80-4100-20
Axial feed socket weld removal tool slide (Standard).	980 410 420	80-4104-20
Axial feed tool slide trip assembly (Standard). For SDSF 1.0 to SDSF 6.0.	980 410 500	80-4105-00
Axial feed tool slide kit. Includes: 1 axial slide 1 trip assembly	980 510 220	80-5102-20
Universal counterbore slide (Standard). For SDSF 1.0 to SDSF 6.0.	980 410 700	80-4107-00
Tool slide and trip assemblies for SDSF 3.0, SDSF 3.5 and SDSF 4.0		
Radial feed parting tool slide (Standard).	980 410 140	80-4101-40
Radial feed beveling tool slide (Standard).	980 410 240	80-4102-40
Radial feed tool slide trip assembly (Standard).	980 410 300	80-4103-00
Radial feed tool slide kit (Standard). Includes: 1 parting slide 1 beveling slide 1 trip assembly	980 510 140	80-5101-40
Trip assembly (Standard).	980 410 440	80-4104-40

SDSF Small Diameter Split Frame - Power

ITEM	CODE	PART NUMBER
Tool slide and trip assemblies for SDSF 3.0, SDSF 3.5 and SDSF 4.0 (Continued)		
Axial feed tool slide trip assembly (Standard). For SDSF 1.0 to SDSF 6.0.	980 410 500	80-4105-00
Axial feed tool slide kit (Standard). Includes: 1 axial slide 1 trip assembly	980 510 240	80-5102-40
Universal counterbore slide (Standard). For SDSF 1.0 to SDSF 6.0.	980 410 700	80-4107-00
Tool slide and trip assemblies for SDSF 5.0 and SDSF 6.0		
Radial feed parting tool slide (Special).	980 410 160	80-4101-60
Radial feed beveling tool slide (Special).	980 410 260	80-4102-60
Radial feed tool slide trip assembly (Standard). For SDSF 1.0 to SDSF 6.0.	980 410 300	80-4103-00
Radial feed tool slide kit (Special). Includes: 1 parting slide 1 beveling slide 1 trip assembly	980 510 160	80-5101-60
Axial feed socket weld removal tool slide (Special).	980 410 460	80-4104-60
Axial feed tool slide trip assembly (Standard). For SDSF 1.0 to SDSF 6.0.	980 410 500	80-4105-00
Axial feed tool slide kit (Special). Includes: 1 axial slide 1 trip assembly	980 510 260	80-5102-60
FME (foreign material exclusion) slide (Special).	980 410 660	80-4106-60
FME cutting wheel.	980 005 300	80-0053-00



Universal Right Angle
Pneumatic Drive Motor

MOTORS AND MISCELLANEOUS ACCESSORIES

ITEM	TO UTILIZE WITH SDSF										CODE	PART NUMBER
	1.0	1.5	2.0	2.5	3.0	3.5	4.0	5.0	6.0			
Universal right angle air drive motor.	x		x		x		x				980 400 400	80-4004-00
Electric motor. For SDSF 120 V - 1500 W	x	x	x	x	x	x	x	x	x	x	900 002 015	80-4005-01
Electric motor. For SDSF 230 V - 1500 W	x	x	x	x	x	x	x	x	x	x	900 002 002	80-4006-01
Front drive pinion housing assembly.	x										980 400 310	80-4003-10
Front drive pinion housing assembly.		x									980 400 315	80-4003-15
Front drive pinion housing assembly.			x								980 400 320	80-4003-20
Front drive pinion housing assembly.				x							980 400 325	80-4003-25
Front drive pinion housing assembly.					x						980 400 330	80-4003-30
Front drive pinion housing assembly.						x					980 400 335	80-4003-35
Front drive pinion housing assembly.							x				980 400 340	80-4003-40
Front drive pinion housing assembly.								x			980 400 350	80-4003-50
Front drive pinion housing assembly.									x		980 400 360	80-4003-60
Universal spare fastener kit.*	x	x	x	x	x	x	x	x	x	x	980 550 000	80-5500-00
Clamp foot and extension leg set. Includes: 4 each clamp foot (980 400 100) 4 each extension legs 0.31in (7.9 mm) (980 007 800) 4 each extension legs 0.56in (14.2 mm) (980 007 801)				x	x	x	x	x	x		980 500 100	80-5001-00
Axial feed tool slide trip assembly.	x	x	x	x	x	x	x	x	x	x	980 400 330	80-4003-30
Universal manual.	x	x	x	x	x	x	x	x	x	x	980 626 010	80-MAN-01

* Kit BOM's subject to change based on current production configuration.



Electric Motor for SDSF



Clamp Foot and Extension
Leg Set

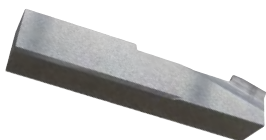
SDSF Small Diameter Split Frame - Tooling



Parting tooling standard



Bevel tooling extended reach 30°



Counterbore tool taper 4:1



FME cutting wheel



Cutting lubrication KSS-TOP

UNIVERSAL TOOLING

Cutting, bevel, counterbore, radial and axial socket weld removal.

ITEM	DIMENSIONS		LENGTH		CODE	PART NUMBER
	mm	inch	mm	inch		
Parting Tooling						
Low clearance	3.2 x 12.7	1/8 x 1/2	41.4	1.63	980 700 101	80-7001-01
Standard	3.2 x 12.7	1/8 x 1/2	54.1	2.13	980 700 102	80-7001-02
Extended reach	3.2 x 12.7	1/8 x 1/2	66.8	2.63	980 700 103	80-7001-03
Bevel Tooling						
Standard 37.5°	9.5 x 12.7	3/8 x 1/2	54.1	2.13	952 710 020	52-710-02
Extended reach 37.5°	9.5 x 12.7	3/8 x 1/2	66.8	2.63	952 710 030	52-710-03
Extended reach 30°	9.5 x 12.7	3/8 x 1/2	67.8	2.67	952 705 010	52-705-01
Extended reach 45°	9.5 x 12.7	3/8 x 1/2	67.8	2.67	952 705 030	52-705-03
Low clearance 37.5°, outside	9.5 x 25.4	3/8 x 1	41.4	1.63	980 700 801	80-7008-01
Standard 37.5°, outside	9.5 x 25.4	3/8 x 1	54.1	2.13	980 700 802	80-7008-02
Universal Counterbore Tool						
Counterbore tool taper 4:1 (14°)	–	–	–	–	980 700 301	80-7003-01
Socket Weld Removal Tooling, Radial Feed						
Standard, radial	–	–	–	–	980 700 601	80-7006-01
Extended reach, radial	–	–	–	–	980 700 602	80-7006-02
Low clearance , radial	–	–	–	–	980 700 603	80-7006-03
Socket Weld Removal Tooling, Axial Feed						
Standard, axial	9.5 x 9.5	3/8 x 3/8	50.8	2.0	980 700 702	80-7007-02
Standard, HSS tool bit, axial. For single point facing, beveling and flange facing. For use with EP 424, LCSF/3, FF, SWR and SDSF machines.	9.5 x 9.5	3/8 x 3/8			952 701 010	52-701-01
Standard, axial. Offset dogleg. With 1in (25.4 mm) extension.	9.5 x 9.5	3/8 x 3/8	38.1	1.5	952 701 020	52-701-02
Standard, carbide, axial.	9.5 x 9.5	3/8 x 3/8	25.4	1.0	952 702 010	52-702-01
Extended reach, axial	9.5 x 9.5	3/8 x 3/8	63.5	2.5	980 700 703	80-7007-03
Extended reach, axial. Offset dogleg. With 1 1/4in (31.8 mm) extension.	9.5 x 9.5	3/8 x 3/8			952 701 030	52-701-03
FME cutting wheel. For chipless cutting.					980 005 300	80-0053-00

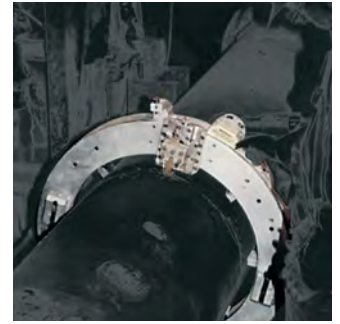
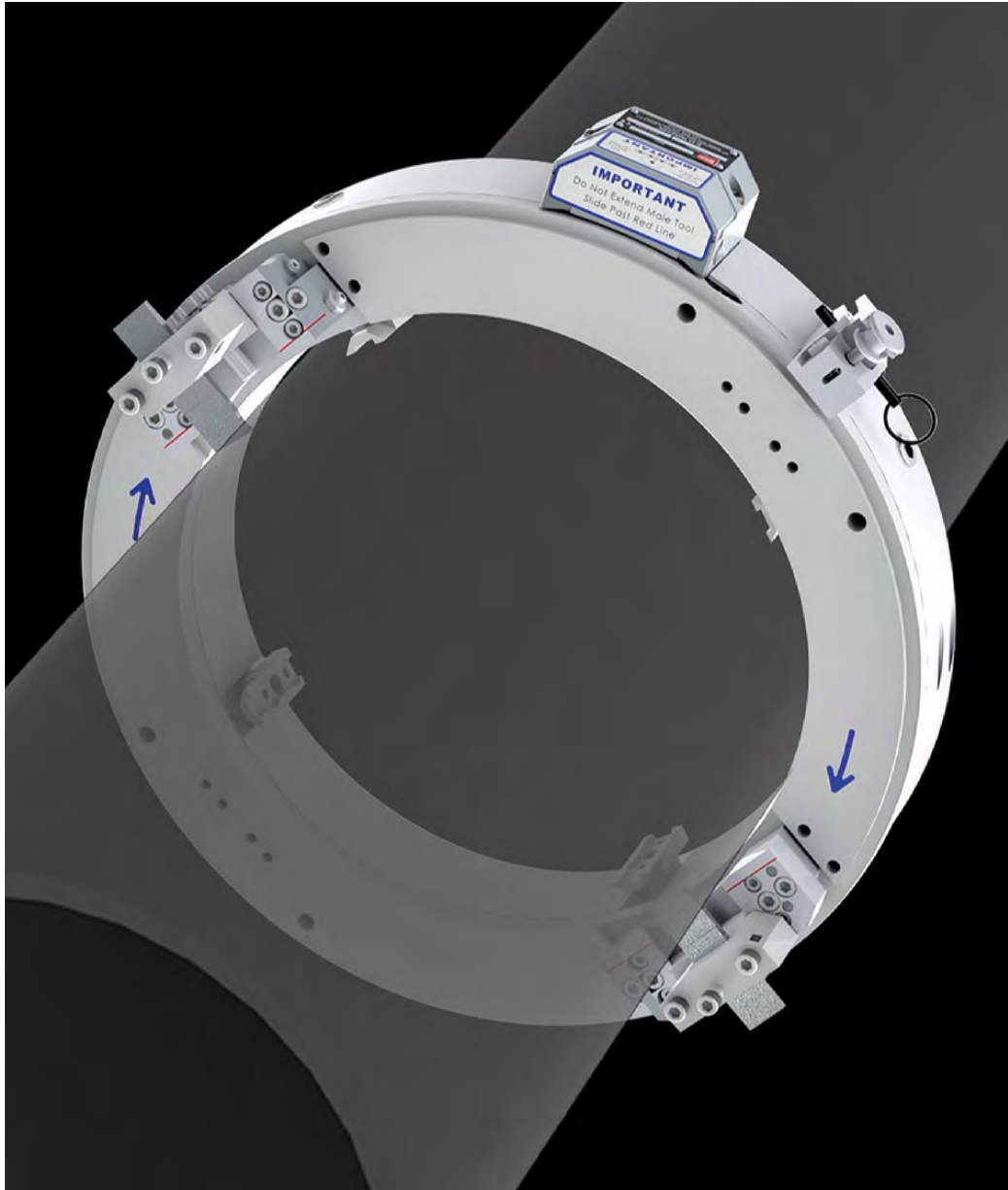
RECOmmENDED ACCESSORIES FOR SDSF 1.0 TO SDSF 6.0

ITEM	CODE	PART NUMBER
ATM house.	980 420 200	80-4202-00
Wrench 7/16in (11.1 mm) hex through torque.	990 800 840	90-800-84
Bevel slide cover assembly. For use with outside bevel tooling.	980 410 800	80-4108-00

CUTTING LUBRICATION

Cutting lubrication "KSS-TOP", see page 48.

LCSF Low Clearance Split Frame



Designed for portability and limited clearance



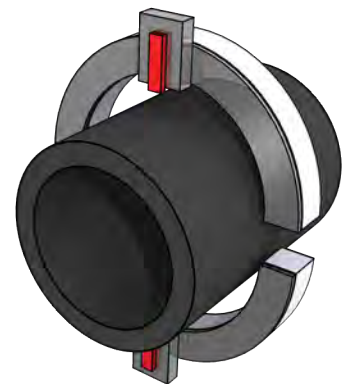
Full range 2in - 48in for pipe and tube



Optional Bridge Slide for heavy wall pipe

EXTERNALLY MOUNTED PORTABLE PIPE CUTTING AND BEVELING SYSTEM

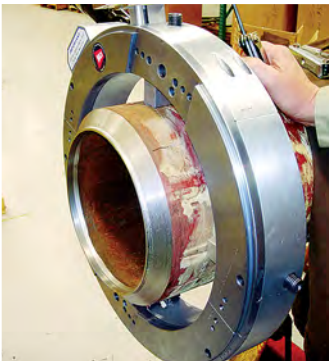
E.H. Wachs LCSF Low Clearance Split Frame is the world's most versatile and comprehensive line of lightweight split frame, clamshell style portable machine tools on the market today. Designed to cut, bevel, single point, counterbore and face flanges on pipe and tube ranging from 2in - 48in (DN50 - DN1200) OD (Outside Diameter) on most wall thicknesses and materials, Wachs slim yet rugged LCSF design is ideal where radial and axial clearances are restricted.



LCSF Low Clearance Split Frame



Hot torch cut before machining



Weld ready after machining



Heavy duty storage case

PORTABLE PIPE CUTTING AND BEVELING MACHINES

- Twelve LCSF basic models cover OD from 2in - 48in (DN 50 to DN 1200)
- Low clearance design requires minimal space for setup and operation
- Designed to split open to mount around the OD of inline pipe
- Fully enclosed bearings and drive gears for safety and durability
- Tool slides and accessories are interchangeable between many LCSF sizes

COLD CUTTING

The LCSF is ideal for all types of pipe cutting, beveling and end prepping.

The Split Frames are named for their ability to split in half at the frame or "break open" and bolt back together again. This allows them to open and mount around the OD of inline piping or they can be slipped closed over open ended pipe. The LCSF has been engineered to apply precise, consistently square cuts and bevels on pipe, tube and casing the first time, every time.

Like all Wachs cutting machines, the LCSF Split Frame utilizes a cold cutting machining process, a safe, clean operation that minimizes the risk of explosion. Hot torch cutting and grinding typically creates a heat affected zone (HAZ) and introduces airborne contaminants into the environment, unacceptable in many worksites and a potential health hazard.

COMPLETE MACHINING SYSTEM

The LCSF is the foundation of a complete machining system, a system that includes multiple drive options, hydraulic power units, bridge slides, counterbore attachments and a wide range of tooling and tool slides. These include low clearance slides, extended and super extended slides, worm gear slides for heavy wall applications and out-of-round tracking slides that minimize setup and machining time. The LCSF is able to handle virtually any cutting and beveling application encountered in the field, including tight clearances, heavy wall pipe or high alloy material. Wachs allows you to take on the most challenging prep with confidence, as the correct power source, drive, tool slides and tooling are never more than a phone call away.

E.H. Wachs LCSF machines are offered as complete kits, with your choice of pneumatic, hydraulic or, by special order electric drive, or as basic ring sets. Kits are the more popular choice, as they include the components typically required including drive, tool slides, trips, hand tools and more. But if you already own Wachs drive motors and tool slides, individual ring sets can economically expand your split frame range.

Ideal for a wide range of industries, the LCSF is found in fossil, co-gen and nuclear power plants for outages, steam generator replacements and general plant maintenance. They're used in oil, gas and petrochemical to minimize the risk of explosion and anywhere that safe, high quality, repeatable weld preps are required. It's the most complete pipe cutting and beveling machining system available today.

Like all Wachs machines, the LCSF is built to last. Steel gear sets, fully enclosed for safety and durability, ride on full roller bearings to handle the rigors of today's demanding preps on today's demanding materials. Strong yet light, the LCSF machines with a speed and precision others can't match.

LCSF Low Clearance Split Frame

IMPORTANT: Product training is recommended for safe operation of the LCSF split frame. Please contact your E.H. Wachs representative for details.

Specifications		206/3	408/3	612/3	814/3	1016/3	1420/3	1824/3	2228/3	2632/3	3036/3	3642/3	4248/3
Machine capacity													
Pipe OD Metric	mm	60.3 - 168.4	114.3 - 219.2	168.3 - 323.85	219.1 - 355	273.1 - 406.4	355.6 - 508	457 - 610	558 - 711	660 - 813	762 - 914	914 - 1067	1067 - 1219
Pipe NPS	inch	2 - 6	4 - 8	6 - 12	8 - 14	10 - 16	14 - 20	18 - 24	22 - 28	26 - 32	30 - 36	36 - 42	42 - 48
Dimensions													
A dimension	mm	174.75	225.55	330.20	361.95	412.75	514.35	622.30	723.90	825.5	927.1	1079.50	1231.90
	inch	6.88	8.88	13.0	14.25	16.25	20.25	24.50	28.50	32.50	36.50	42.50	48.50
Extended tool slide tool stroke 1.5in (38.1 mm) using slide 960 415 000 or 960 416 000													
B dimension	mm	163.83	216.15	277.88	290.83	322.58	373.38	422.40	473.20	524.00	574.80	651.3	727.5
	inch	6.45	8.51	10.94	11.45	12.70	14.70	16.63	18.63	20.63	22.63	25.64	28.64
C dimension	mm	152.40	152.40	152.40	152.40	152.40	152.40	177.80	177.80	177.80	177.80	177.8	177.8
	inch	6.00	6.00	6.00	6.00	6.00	6.00	7.00	7.00	7.00	7.00	7.00	7.00
Super extended tool slide tool stroke 2in (50.8 mm) using slide 960 437 000 or 960 438 000													
B dimension	mm	—	—	—	—	—	—	482.60	533.40	584.20	635.00	711.20	787.40
	inch	—	—	—	—	—	—	19.00	21.00	23.00	25.00	28.00	31.00
C dimension	mm	—	—	—	—	—	—	177.80	177.80	177.80	177.80	177.80	177.80
	inch	—	—	—	—	—	—	7.00	7.00	7.00	7.00	7.00	7.00
Weights													
Machine	kg	16.78	19.50	28.57	33.11	39.91	46.72	79.38	90.72	104.32	117.93	140.60	163.29
	lbs	37	43	63	73	88	103	175	200	230	260	310	360
Shipping	kg	43.5	43.5	57	64	75	87.5	226	235	244	239.5	271	304
	lbs	96	96	125	141	165	193	499	520	538	528	597	670
Shipping dimensions													
Without accessories	[cm]	31x81x53	31x81x53	31x81x53	61x81x51	48x107x61	61x81x51	61x122x74	64x122x74	64x122x74	61x122x74	81x152x97	79x155x97
	inch	12x32x21	12x32x21	12x32x21	24x32x20	19x42x24	24x32x20	24x48x29	25x48x29	25x48x29	24x48x29	32x60x38	31x61x38

Standard equipment for complete machines:

Rotating ring set, heavy drive (pneumatic, hydraulic or electric), self squaring mounting system, set of extension legs, parting tool slide, beveling tool slide, star wheel feed mechanism, fitted storage case, operating hand tools, operating manuals.

LCSF 206/3 up to 814/3 contain 1.5HP 1.1 kW pneumatic motor. LCSF 1016/3 up to 4248/3 contain 2.5 HP 1.8 kW pneumatic motor.

LCSF 206/3 up to 1420/3 contain extended (1.5 inch) parting and beveling tool slides. LCSF 1824/3 up to 4248/3 contain super extended (2 inch) parting and beveling tool slides.

Clamp pads

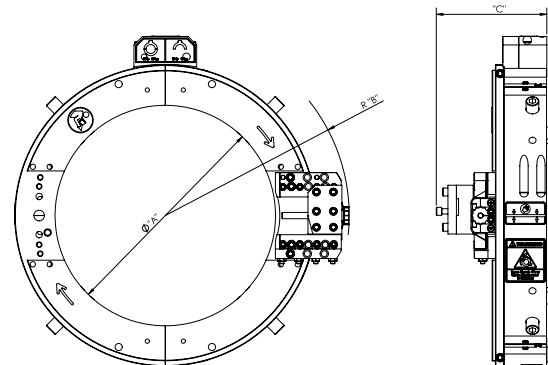
Rotating ring set		206	408	612	814	1016	1420	1824	2228	2632	3036	3642	4248
Self squaring mounting system	[jaws]	4	4	4	4	4	4	8	8	8	8	8	8
	[set of]	4 each	4 each	4 each	4 each	4 each	4 each	8 each	8 each	8 each	8 each	8 each	8 each
Extension legs		12.7		25.4	12.7	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
		25.4	25.4	50.8	38.1	38.1	50.8	50.8	50.8	50.8	50.8	50.8	50.8
		38.1	50.8	76.2	63.5	63.5	76.2	76.2	76.2	76.2	76.2	76.2	76.2
		50.8											
		0.5		1.0	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
		1.0	1.0	2.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
		1.5	2.0	3.0	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		2.0											

Optional equipment

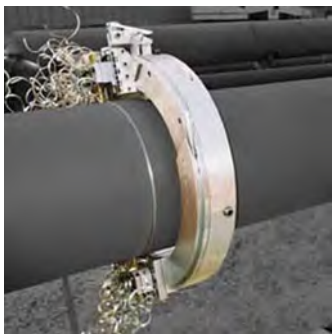
Bridge slide for single point beveling of heavy wall pipe, low clearance tool slides, extended tool slides, worm gear tool slides, pneumatic, hydraulic or electric drive options, extension legs for pipe, elbows and fittings and thin wall applications, tooling for all prep configurations.

Other specifications

Cutting tool surface speed	18 m/min (60 ft/min)
Drive options	Pneumatic, hydraulic or electric
Air requirements	1.7 m ³ /min at 6.2 bar (65 ft ³ /min at 90 psi)
Hydraulic requirements	31 l/min at 104 bars (8 gal/min at 1,500 psi)
Feed method	Star wheel
Feed rate	Fixed at 0.0026 inch (0.066 mm) per trip
Finish	Hard chrome plating



LCSF Low Clearance Split Frame



Simultaneous parting and beveling



LCSF used in oil and gas



Ideal tool for pipe maintenance and repair projects



LCSF counterboring

LCSF MACHINE RANGES

ITEM	DRIVETYPE	PIPE OD RANGE		CODE	PART NUMBER
		METRIC mm	NPS inch		
LCSF 206/3	Pneumatic	50.8 - 168.4	2 - 6	960 247 060	60-AIR-06
LCSF 206/3	Hydraulic	50.8 - 168.4	2 - 6	960 493 060	60-HYD-06
LCSF 206/3	Electric	50.8 - 168.4	2 - 6	ON REQUEST	ON REQUEST
LCSF 408/3	Pneumatic	92.2 - 219.2	4 - 8	960 247 080	60-AIR-08
LCSF 408/3	Hydraulic	92.2 - 219.2	4 - 8	960 493 080	60-HYD-08
LCSF 408/3	Electric	92.2 - 219.2	4 - 8	ON REQUEST	ON REQUEST
LCSF 612/3	Pneumatic	139.7 - 323.85	6 - 12	960 247 120	60-AIR-12
LCSF 612/3	Hydraulic	139.7 - 323.85	6 - 12	960 493 120	60-HYD-12
LCSF 612/3	Electric	139.7 - 323.85	6 - 12	ON REQUEST	ON REQUEST
LCSF 814/3	Pneumatic	196.85 - 355	8 - 14	960 247 140	60-AIR-14
LCSF 814/3	Hydraulic	196.85 - 355	8 - 14	960 493 140	60-HYD-14
LCSF 814/3	Electric	196.85 - 355	8 - 14	ON REQUEST	ON REQUEST
LCSF 1016/3	Pneumatic	247.65 - 406.4	10 - 16	960 247 160	60-AIR-16
LCSF 1016/3	Hydraulic	247.65 - 406.4	10 - 16	960 493 160	60-HYD-16
LCSF 1016/3	Electric	247.65 - 406.4	10 - 16	ON REQUEST	ON REQUEST
LCSF 1420/3	Pneumatic	324 - 508	14 - 20	960 247 200	60-AIR-20
LCSF 1420/3	Hydraulic	324 - 508	14 - 20	960 493 200	60-HYD-20
LCSF 1420/3	Electric	324 - 508	14 - 20	ON REQUEST	ON REQUEST
LCSF 1824/3	Pneumatic	425 - 610	18 - 24	960 247 240	60-AIR-24
LCSF 1824/3	Hydraulic	425 - 610	18 - 24	960 493 240	60-HYD-24
LCSF 1824/3	Electric	425 - 610	18 - 24	ON REQUEST	ON REQUEST
LCSF 2228/3	Pneumatic	527 - 711	22 - 28	960 247 280	60-AIR-28
LCSF 2228/3	Hydraulic	527 - 711	22 - 28	960 493 280	60-HYD-28
LCSF 2228/3	Electric	527 - 711	22 - 28	ON REQUEST	ON REQUEST
LCSF 2632/3	Pneumatic	527 - 711	26 - 32	960 247 320	60-AIR-32
LCSF 2632/3	Hydraulic	527 - 711	26 - 32	960 493 320	60-HYD-32
LCSF 2632/3	Electric	527 - 711	26 - 32	ON REQUEST	ON REQUEST
LCSF 3036/3	Pneumatic	730 - 914	30 - 36	960 247 360	60-AIR-36
LCSF 3036/3	Hydraulic	730 - 914	30 - 36	960 493 360	60-HYD-36
LCSF 3036/3	Electric	730 - 914	30 - 36	ON REQUEST	ON REQUEST
LCSF 3642/3	Pneumatic	883 - 1067	36 - 42	960 247 420	60-AIR-42
LCSF 3642/3	Hydraulic	883 - 1067	36 - 42	960 493 420	60-HYD-42
LCSF 3642/3	Electric	883 - 1067	36 - 42	ON REQUEST	ON REQUEST
LCSF 4248/3	Pneumatic	1035 - 1219	42 - 48	960 247 480	60-AIR-48
LCSF 4248/3	Hydraulic	1035 - 1219	42 - 48	960 493 480	60-HYD-48
LCSF 4248/3	Electric	1035 - 1219	42 - 48	ON REQUEST	ON REQUEST

TYPICAL STANDARD TOOLING:

Parting tool, e.g. length: 5in (Part Number 43-711-01).

For further "Cutting tooling" see page 24.

Bevel tool, e.g. 30°, length: 5in (Part Number 53-703-01).

For further "Bevel tooling" see page 24.

LCSF Low Clearance Split Frame

BASIC MACHINE PARTS, NECESSARY FOR CUTTING AND BEVELING:

- Rotating ring set: Version LCSF 1420/3
- Right angle air drive
- ACM + LCSF air throttle
- Parting tool, e.g. length: 5in
- Bevel tool, e.g. 30°, length: 5in
- Extended (1.5 inch) tool slide set

ROTATING RING SETS (SPLIT FRAMES)

Add slides and drive for complete machine. Leg extensions for full clamping range now included with ring.

Includes:

- Self squaring mounting system (4- or 8-jaw)
- Pinion housing assembly
- Operating hand tools
- Carrying case
- Operating manual

ITEM	MODEL	PIPE OD		JAWS	CODE	PART NUMBER
		METRIC mm	NPS inch	[QTY.]		
Rotating ring set	LCSF 206/3	50.8 - 168.4	2 - 6	4	960 000 060	60-000-06
Rotating ring set	LCSF 408/3	92.2 - 219.2	4 - 8	4	960 000 080	60-000-08
Rotating ring set	LCSF 612/3	139.7 - 323.85	6 - 12	4	960 000 120	60-000-12
Rotating ring set	LCSF 814/3	196.85 - 355	8 - 14	4	960 000 140	60-000-14
Rotating ring set	LCSF 1016/3	247.65 - 406.4	10 - 16	4	960 000 160	60-000-16
Rotating ring set	LCSF 1420/3	324 - 508	14 - 20	4	960 000 200	60-000-20
Rotating ring set	LCSF 1824/3	425 - 610	18 - 24	8	960 000 240	60-000-24
Rotating ring set	LCSF 2228/3	527 - 711	22 - 28	8	960 000 280	60-000-28
Rotating ring set	LCSF 2632/3	629 - 813	26 - 32	8	960 000 320	60-000-32
Rotating ring set	LCSF 3036/3	730 - 914	30 - 36	8	960 000 360	60-000-36
Rotating ring set	LCSF 3642/3	883 - 1067	36 - 42	8	960 000 420	60-000-42
Rotating ring set	LCSF 4248/3	1035 - 1219	42 - 48	8	960 000 480	60-000-48

DRIVE MOTORS AND EQUIPMENT

Add one of the following to rotating ring:

ITEM	FOR LCSF MODELS	CODE	PART NUMBER
Right angle air drive. 1.1 kW (1.5 hp).	206/3 - 814/3	960 423 000	60-423-00
Right angle air drive. 1.9 kW (2.5 hp).	1016/3 - 4248/3	960 423 010	60-423-01
Hydraulic drive.	204/3 - 4248/3	960 424 010	60-424-01
Hydraulic motor. For usage of LCSF Split Frames operating with hydraulic power unit (see page 72).	204/3 - 4248/3	960 424 020	60-424-02
Air Control Module ACM (see page 76).	For all models	960 420 000	60-420-00
Hydraulic hoses. 1 pair, Length: 15 m (49.2 ft)	For all models	790 500 510	03-404-00
Front drive pinion housing.	408/3 to 1420/3	960 425 030	60-425-03
Front drive pinion housing.	1824/3 to 4248/3	960 425 040	60-425-04
Air treatment module	For all models	—	69-4102-00
Compressed air drive 2.5 HP complete, reversible	For all models	960 401 001	60-4010-01
EPD Electric Power Drives for LCSF, see page 74.	—	—	—



Rotating ring set



NEW: Electric Power Drive (EPD), see page 74



Pneumatic drive motor

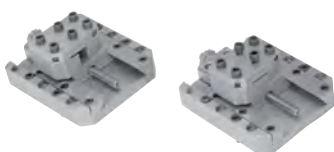


Hydraulic drive motor

LCSF Low Clearance Split Frame



LCSF extended tool slide set



LCSF super extended tool slide set



Worm gear slides for heavy wall pipe



LCSF with worm slide assembly

TOOL SLIDE ASSEMBLIES

Add one of the following tool slide assemblies to the rotating ring:

ITEM	CODE	PART NUMBER
Low clearance tool slide set For LCSF 206/3 to LCSF 1420/3. Includes: 1 low clearance parting tool slide 1 low clearance beveling tool slide 1 star wheel feed trip mechanism	960 421 040	60-421-04
Extended (1.5 inch) tool slide set For LCSF 206/3 to LCSF 1420/3 and low clearance slides for LCSF 1824/3 to LCSF 4248/3. Includes: 1 extended (1.5 inch) parting tool slide 1 extended (1.5 inch) beveling tool slide 1 star wheel feed trip mechanism 2 star wheel feed extension blocks	960 422 010	60-422-01
Super extended (2 inch) tool slide set For LCSF 1824/3 to LCSF 4248/3. Includes: 1 super extended (2 inch) parting tool slide 1 super extended (2 inch) beveling tool slide 1 star wheel feed trip mechanism 2 star wheel feed extension blocks	960 440 000	60-440-00

WORM SLIDE ASSEMBLIES

For LCSF 1824/3 up to LCSF 4248/3.

Recommended for heavy wall applications > 1.5in (38.1 mm).

ITEM	CODE	PART NUMBER
Worm slide starter kit "parting" Includes: 1 worm slide kit 1 worm slide heavy wall parting holder kit 2 heavy wall carbide insert tooling kit 10 insert tool bits 8 mm/0.313in	900 002 008	—
Worm slide kit Includes: 1 parting slide 1 bevel slide 2 trip assemblies 2 extension blocks spare fasteners Utilizes all standard LCSF parting and beveling blades. Note: heavy wall parting > 1.5in (38.1 mm) requires parting tool holder kit and carbide parting tooling kit.	960 430 000	60-430-00
Worm slide heavy wall parting holder kit Includes: 1 each low and high insert holder 1 cover fasteners Utilizes carbide insert holders.	960 433 000	60-433-00
Heavy wall carbide insert tooling kit Includes: 1 insert holder 1 insert 1 insert extractor. Used with the worm slides or spring slides. For 24in - 48in (609.6 - 1219.2 mm) LCSF machines.	960 712 000	60-712-00
Insert tool bit 0.313in (8 mm) For use with tooling kit.	960 713 000	60-713-00

LCSF Low Clearance Split Frame

OD TRACKING SLIDES

OD tracking module.

ITEM	FOR LCSF MODELS	CODE	PART NUMBER
OD tracking tool slide set Includes: 2 OD tracking tool slides: 1 tool slide parting (960 446 010) and 1 tool slide parting/beveling (960 446 020) 1 trip assembly with corrosion protection Fasteners	1824/3 - 4248/3	960 446 000	60-446-00
Parting tool slide, OD tracking.	1824/3 - 4248/3	960 446 010	60-446-01
Beveling tool slide, OD tracking.	1824/3 - 4248/3	960 446 020	60-446-02
OD tracking trip.	1824/3 - 4248/3	960 446 030	60-446-03
OD tracking tool slide set.	610/3 - 1420/3	960 451 000	60-451-00

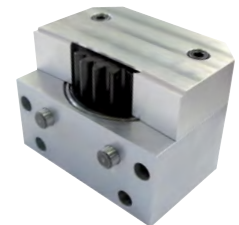


Out of round slides

PINION HOUSING ASSEMBLIES

Included in LCSF ring sets.

ITEM	FOR LCSF MODELS	CODE	PART NUMBER
Pinion housing assembly.	LCSF 206/3 - LCSF 1420/3	960 412 000	60-412-00
Pinion housing assembly.	LCSF 1824/3, LCSF 2228/3, LCSF 2632/3, LCSF 3036/3, LCSF 3642/3, LCSF 4248/3	960 409 000	60-409-00
Front drive pinion housing.	LCSF 408/3 - LCSF 1420/3	960 425 030	60-425-03
Front drive pinion housing.	LCSF 1824/3 - LCSF 4248/3	960 425 040	60-425-04



Pinion housing assembly

TRIP ASSEMBLY

Upgrades LCSF Split Frame Machines for safer operation
(included in tool slide sets, opposite page).

ITEM	FOR LCSF MODELS	CODE	PART NUMBER
Trip Assembly.	LCSF 206-1420	960 401 000	60-401-00
Trip Assembly.	LCSF 1824-4248	960 434 000	60-434-00



Front drive pinion housing

SINGLE SIZE EXTENSION LEG SETS

LCSF 206/3 up to LCSF 1420/3: 1 set of 4 each.

LCSF 1824/3 up to LCSF 4248/3: 2 sets of 4 each.

ITEM	DIMENSION		CODE	PART NUMBER
	mm	inch		
Single size extension leg set	12.7	1/2	960 408 050	60-408-05
Single size extension leg set	19.1	3/4	960 408 070	60-408-07
Single size extension leg set	25.4	1	960 408 100	60-408-10
Single size extension leg set	38.1	1 1/2	960 408 150	60-408-15
Single size extension leg set	50.8	2	960 408 200	60-408-20
Single size extension leg set	63.5	2 1/2	960 408 250	60-408-25
Single size extension leg set	76.2	3	960 408 300	60-408-30



Trip assembly



Single size extension leg set

LCSF Low Clearance Split Frame



Universal counterbore slide



Bridge slide for thick-walled welding preparations

UNIVERSAL COUNTERBORE SLIDE ASSEMBLIES

Max. axial travel: 1 ¾in (44.5 mm). Mounts to bevel tool slide.

ITEM	CODE	PART NUMBER
Universal counterbore slide module for Wachs LCSF.	960 405 820	60-405-UC
Counterbore tool bit taper 4:1 (14°) for use with counterbore slide module	960 700 040	60-700-04

BRIDGE SLIDE ASSEMBLIES

For single point beveling applications over 1.25in (32 mm) wall and counterboring.

Max. axial travel for counterboring: 1 ½in (38.1 mm).

Includes:

- 1 storage case (bridge slide assembly 12-20 only)
- 1 operating manual
- 1 counterbore tool holder
- 1 single point tool holder
- 1 counterbore tool (4:1 taper)
- 1 single point tool bit
- operating hand tools

ADDITIONAL TEMPLATE REQUIRED:

BRIDGE SLIDE ASSEMBLY FOR THICK-WALLED PREPARATIONS

SIZE	FOR USE WITH	CODE	PART NUMBER
12 LC	LCSF 612/3	960 428 120	60-428-12
12-14	LCSF 612/3, LCSF 814/3	960 428 140	60-428-14
12-16	LCSF 612/3, LCSF 814/3, LCSF 1016/3	960 428 160	60-428-16
12-20	LCSF 612/3, LCSF 814/3, LCSF 1016/3, LCSF 1420/3	960 428 200	60-428-20
24 LC	LCSF 1824/3	960 428 240	60-428-24
24-28	LCSF 1824/3, LCSF 2228/3	960 428 280	60-428-28
32 LC	LCSF 2632/3	960 428 320	60-428-32
32-36	LCSF 2632/3, LCSF 3036/3	960 428 360	60-428-36
42 LC	LCSF 3642/3	960 428 420	60-428-42
42-48	LCSF 3642/3, LCSF 4248/3	960 428 480	60-428-48

LCSF Low Clearance Split Frame

BRIDGE SLIDE TEMPLATES

Please specify when ordering customized templates:

Beveling angles (primary/secondary), OD, transition diameter.

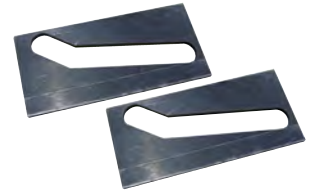
ITEM	BEVELING ANGLE DEGREES (°)	CODE	PART NUMBER
Bridge slide template	37.5	953 409 020	53-409-02
Bridge slide template	30	953 409 030	53-409-03
Bridge slide template	20	953 409 050	53-409-05
Bridge slide template	10 x 37.5	953 409 110	53-409-11
Bridge slide template	10 x 30	953 409 120	53-409-12
Bridge slide template	10 x 20	953 409 130	53-409-13
Customized bridge slide templates			
Custom bridge slide templates 2 single angle templates included.	–	ON REQUEST	60-SPP-01
Custom bridge slide templates 2 compound angle templates included.	–	ON REQUEST	60-SPP-02

BRIDGE SLIDE TOOLING

Please specify when ordering customized tools:

OD, wall, finished bore, depth, lead-in angle, marking, radius.

ITEM	CODE	PART NUMBER
DuoEdge LCSF single point holder single pack (see page 26).	960 718 000	60-718-00
Counterbore tool holder 1in (25.4 mm) square shank. For use with counterbore tool bit.	960 708 000	60-708-00
Counterbore tool (4:1 taper) For use with Wachs LCSF/3 machines.	960 700 040	60-700-04
Single point tool holder (SW tool, 3/8in x 3/8in). 1in (25.4 mm) square shank. For use with single point tool bit.	960 707 000	60-707-00
Single point tool bit For facing, beveling and flange facing. Standard HSS tool bit 3/8in x 3/8in (9.5 x 9.5 mm). For use with EP 424, LCSF/3, FF, SWR and SDSF machines.	952 701 010	52-701-01
Customized tools		
Custom counterbore tool bit (HSS) For LCSF 204/3 to LCSF 1420/3 counterbore slide. 1/4in x 1 1/4" (6.35 x 31.75 mm) stock.	ON REQUEST	60-SPT-14
Custom single edge radius tool bit (HSS). 3/8in x 3/8in (9.5 x 9.5 mm) square stock.	ON REQUEST	60-SPT-15



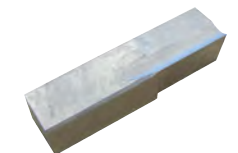
Bridge slide template for thick-walled welding preparations



Legacy single-point tool holder (SW tool, 3/8in x 3/8in)



Counterbore tool holder



Legacy single-point standard HSS tool bit 9.5 x 9.5 mm

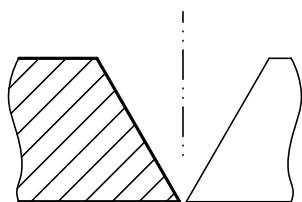
LCSF Low Clearance Split Frame



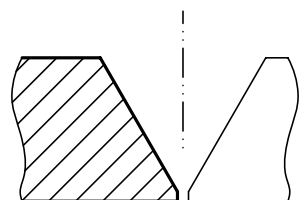
Parting blade



Parting blade premium (coated)



Bevel without land



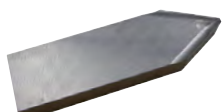
Bevel with land



Bevel tool inside 30°



Bevel tool outside 30°



Bevel tool double 30°

CUTTING TOOLING

ITEM	WIDTH		LENGTH		MADE FROM	CODE	PART NUMBER
	mm	inch	mm	inch			
Insert holder for parting insert	4.8	3/16			CARBIDE	943 704 000	43-704-00
Parting insert	4.8	3/16			CARBIDE	943 705 000	43-705-00
Insert holder for parting insert	6.4	1/4			CARBIDE	947 701 000	47-701-00
Parting insert	6.4	1/4			CARBIDE	947 702 000	47-702-00
Parting blade	4.8	3/16	87.3	3.44	HSS	943 711 000	43-711-00
Parting blade	4.8	3/16	127	5	HSS	943 711 010	43-711-01
Parting blade Premium (coated)	4.8	3/16	127	5	HSS	943 711 019	43-711-01P
Parting blade for use with all slides including worm slides.	6.4	1/4	152.4	6	HSS	960 711 000	60-711-00
Insert holder kit for heavy walls. Includes: 1 insert holder 1 insert 1 insert extractor. Used with worm slides (960 430 000) or spring slides (960 446 000). For 24in - 48in (609.6 - 1219.2 mm) LCSF machines.					CARBIDE	960 712 000	60-712-00
Insert 0.313in (8 mm). Used with insert holder kit.					CARBIDE	960 713 000	60-713-00
Customized parting blades							
Custom parting blade	4.8	3/16	127	5	HSS	ON REQUEST	60-SPT-11
Custom parting blade	6.4	1/4	127	5	HSS	ON REQUEST	60-SPT-12
Custom parting blade for bevel slides	12.7	1/2	19.05	3/4	HSS	ON REQUEST	60-SPT-13

BEVEL TOOLING

To utilize up to wall thicknesses of 1 ¼ inch (32 mm).

Please specify when ordering customized tools: OD, wall, primary angle, land.

ITEM	BEVELING ANGLE	LENGTH		CODE	PART NUMBER	
	[DEGREES °]	mm	inch			
Bevel tool inside	30	79.4	3.125	943 702 050	43-702-05	
Bevel tool outside	30	79.4	3.125	943 707 050	43-707-05	
Bevel tool double	30	79.4	3.125	943 709 050	43-709-05	
Bevel tool inside	30	127	5	953 703 010	53-703-01	
Bevel tool inside Premium (coated)	30	127	5	953 703 019	53-703-01P	
Bevel tool outside	30	127	5	943 707 060	43-707-06	
Bevel tool double	30	127	5	943 709 060	43-709-06	
Bevel tool inside	37.5	79.4	3.125	943 703 050	43-703-05	
Bevel tool outside	37.5	79.4	3.125	943 708 050	43-708-05	
Bevel tool double	37.5	79.4	3.125	943 710 050	43-710-05	
Bevel tool inside	37.5	127	5	953 703 000	53-703-00	
Bevel tool outside (replaces 953 707 000)	37.5	127	5	943 708 060	43-708-06	
Bevel tool double (replaces 953 708 000)	37.5	127	5	943 710 060	43-710-06	
CUSTOMIZED TOOLS	WIDTH		LENGTH STOCK		CODE	PART NUMBER
	mm	inch	mm	inch		
Custom bevel tool bit single angle (HSS)	19.05	3/4	87.3	3.438	ON REQUEST	60-SPT-01
Custom bevel tool bit single angle outside (HSS)	38.1	1 ½	87.3	3.438	ON REQUEST	60-SPT-03
Custom bevel tool bit double (HSS)	38.1	1 ½	87.3	3.438	ON REQUEST	60-SPT-05
Custom bevel tool bit single angle (HSS)	19.05	3/4	127	5	ON REQUEST	60-SPT-02
Custom bevel tool bit single angle outside (HSS)	38.1	1 ½	127	5	ON REQUEST	60-SPT-04
Custom bevel tool bit double (HSS)	38.1	1 ½	127	5	ON REQUEST	60-SPT-06

LCSF Low Clearance Split Frame

COMPOUND BEVEL TOOLING

Please specify when ordering customized tools:

OD, wall, primary angle, secondary angle, land, land extension, transition, radius.

ITEM	BEVEL ANGLE	LENGTH		CODE	PART NUMBER	
	DEGREES (°)	mm	inch			
Bevel tool inside.	10 x 37.5	101.6	4	943 712 010	43-712-01	
Bevel tool outside.	10 x 37.5	101.6	4	943 712 020	43-712-02	
Bevel tool inside Max. wall. 1¼" (31.75 mm) or 1.188in (30 mm) when used with parting slides 960 416 000 or 960 437 000.	10 x 37.5	127	5	953 705 000	53-705-00	
Bevel tool inside Max. wall. 2.125in (54 mm).	10 x 30	127	5	953 704 000	53-704-00	
CUSTOMIZED TOOLS	WIDTH		LENGTH STOCK		CODE	PART NUMBER
	mm	inch	mm	inch		
Custom bevel tool bit compound (HSS).	19.05	3/4	127	5	ON REQUEST	60-SPT-07
Custom bevel tool bit single angle "J" (HSS).	19.05	3/4	127	5	ON REQUEST	60-SPT-08
Custom bevel tool bit compound angle "J" (HSS).	19.05	3/4	127	5	ON REQUEST	60-SPT-09

COUNTERBORE TOOLING

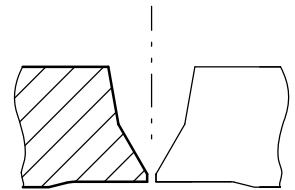
Please specify when ordering customized tools:

OD, wall, finished bore, depth, lead-in angle, marking.

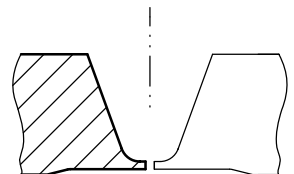
ITEM	CODE	PART NUMBER
Counterbore tool (4:1 taper). For use with Wachs LCSF/3 machines.	960 700 040	60-700-04
Customized tools		
Custom counterbore tool bit (HSS). For LCSF 204/3 to LCSF 1420/3 counterbore slide 1/4in x 1¼" (6.35 x 31.75 mm) stock.	ON REQUEST	60-SPT-14

CUTTING LUBRICATION

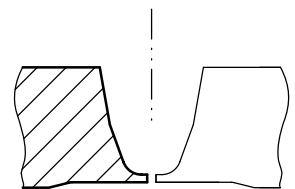
Cutting lubrication "KSS-TOP", see page 48.



Compound Bevel



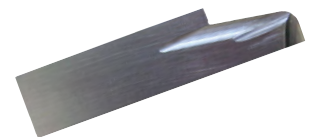
J-Prep Bevel



Compound J-Prep Bevel



Compound tool



J-prep tool



Counterbore tool taper 4:1

LCSF Low Clearance Split Frame



NEW DuoEdge LCSF
insert and holder



DuoEdge inserts, 10 pack



LCSF DuoEdge reusable holder

NEW DUOEDGE INSERT TOOLING

E.H. Wachs DuoEdge Insert Tooling is a system of portable machine tool holders and inserts designed to replace larger, more expensive traditional single edge tooling.

It offers considerable cost savings over traditional tooling without sacrificing the longevity of the cutting edge or the quality of the finished prep.

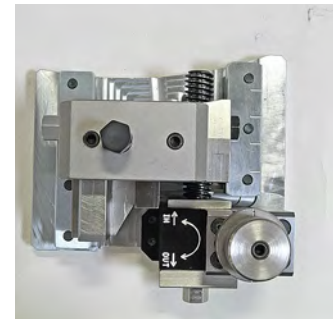
- Two cutting edges instead of one, for minimal work interruption
- Each cutting edge costs on average one third the cost of a traditional bit
- No need to sharpen tooling, saving time, labor and shipping
- Small size of inserts makes them easy to store or carry in your pocket
- Holders are reusable, inserts are interchangeable between holders
- End prep holder is reversible to a high and low range position
- Precision ground, super smooth surface finish
- Reduced friction for longer life
- Chip curl edge designed to clear swarf
- Eliminates expensive and time consuming conventional tool sharpening
- Unlike conventional tooling DuoEdge has two cutting edges per insert
- Less expensive per cutting edge, on average less than 1/3 the cost of conventional tooling
- Optimal mix of sharpness and durability
- Supplied with 0.5in tool radius for stronger edges and a better finish
- Superior to competitors off the shelf repurposed CNC tooling
- Three insert materials offered, HSS, premium coated HSS and carbide steel

ITEM	APPLICATION	MATERIAL	CODE	PART NUMBER
DuoEdge Insert Single Pack	Carbon steel	HSS	981 701 010	81-701-01
DuoEdge Insert 10-Pack	Carbon steel	HSS	981 701 100	81-701-10
DuoEdge Premium Single Pack	Stainless steel	HSS Premium	981 701 009	81-701-00P
DuoEdge Premium 10-Pack	Stainless steel	HSS Premium	981 701 109	81-701-10P
DuoEdge Insert Single Pack	High-temp alloys	Carbide	981 703 010	81-703-01
DuoEdge Insert 10-Pack	High-temp alloys	Carbide	981 703 100	81-703-10
DuoEdge J-Prep Insert Single Pack	R 2.4 mm/.094in J-Prep	HSS	981 704 010	81-704-01
DuoEdge J-Prep Insert Single Pack	R 3.2 mm/.125in J-Prep	HSS	981 705 010	81-705-01
DuoEdge J-Prep Insert Single Pack	R 4.8 mm/.188in J-Prep	HSS	981 706 010	81-706-01
DuoEdge J-Prep Insert Single Pack	R 6 mm/.236in J-Prep	HSS	981 707 010	81-707-01
LCSF Holder Single Pack	LCSF single point	Heat treated steel	960 718 000	60-718-00

DynaPrep MDSF Split Frame



Newly designed slides with rapid retract feature



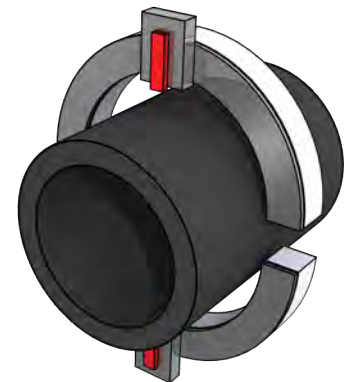
Slides now accept 1in (25.4mm) square & all popular tooling



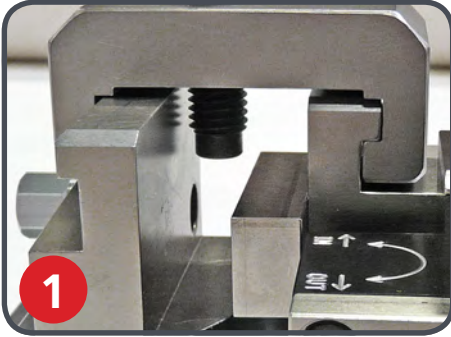
Patent pending ring mating surface resists force distortion

HEAVY DUTY FORM TOOLING AND PIPE WELD PREPARATION

E.H. Wachs all new DynaPrep® MDSF split frame redefines the category of cold cutting machine tools for pipe and vessels. Engineered to be powerful, strong and lightweight, DynaPrep offers unmatched form tooling capability on heavy wall pipe including high alloy material. Designed for cutting, beveling, facing, counterboring and flange facing, it will be offered initially in six standard models for popular nominal pipe sizes ranging from 6in to 24in O.D. (DN150-600), with each machine covering a generous 6in range. Sold as complete kits or individual components the DynaPrep MDSF is available in your choice of pneumatic, hydraulic or electric drive.



DynaPrep MDSF Split Frame



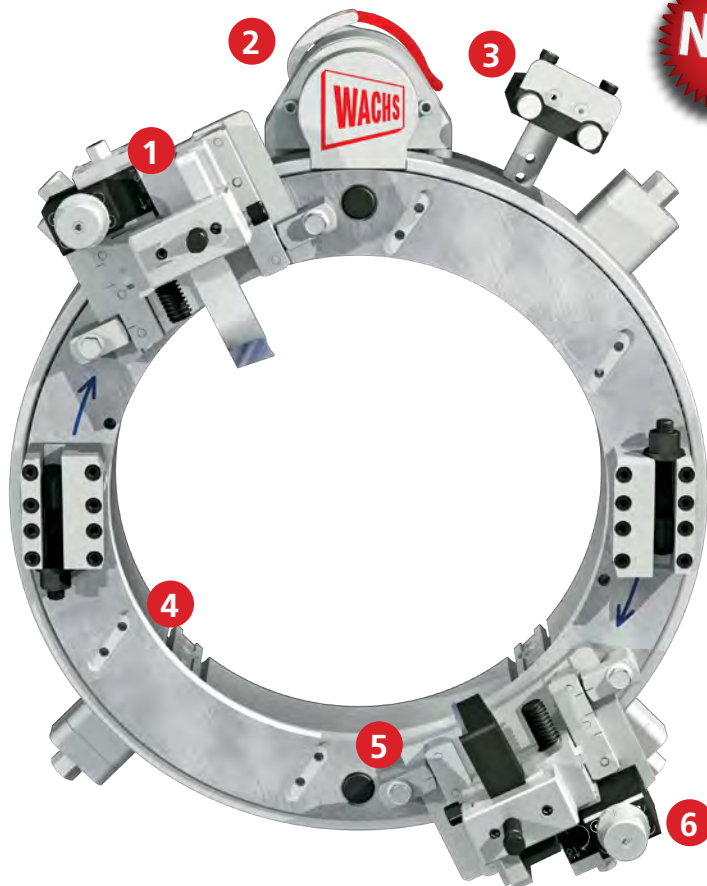
Accepts most popular tooling sizes including 1in (25.4mm) square & 1/2in x 3/4in (12.7 x 19mm)



New gear design withstands force from up to a 10HP (7.5kW) drive motor



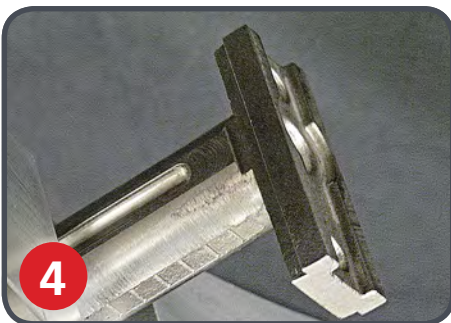
New anti crash ramp on tool slides retracts dual trips if mispositioned



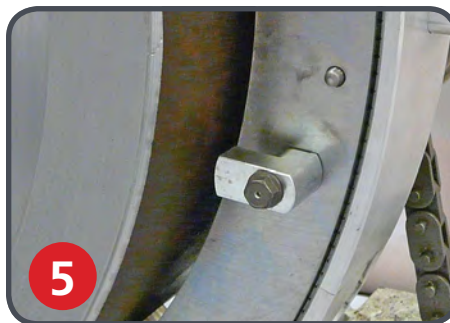
NEW

12in (305 mm) DYNAPREP MDSF

- More rugged design with vastly increased form tooling capability
- New gear design withstands force from up to a 10HP (7.5kW) drive motor
- Ring sizes 20in and below use four clamping feet for squaring
- New ring mating surfaces features angled captivated bolt and keyway
- Common cross sectional height for tool slide commonality
- Low sectional height fits in narrow or confined operating envelopes
- Aluminum fixed ring for portability, steel on the rotating ring for strength
- Advanced heat treating and anti-corrosion coatings for enhanced durability
- Dual row v-bearing construction for precision and durability
- V-bearings run in a new unique hardened steel dual raceway
- Dual raceway design evenly distributes force loading no matter the direction



Ring sizes 20in and below use four clamping feet for squaring

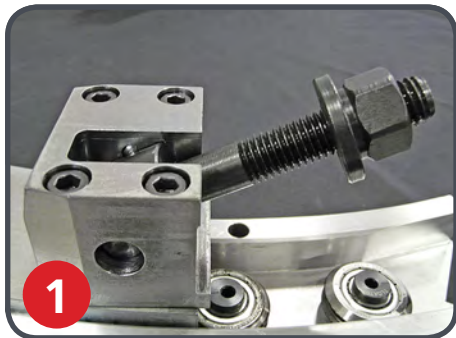


Captivated, swing-away toe clamp for easier slide mounting



Micro fine adjustment knobs provide greater precision during setup and operation

DynaPrep MDSF Split Frame



New design swing bolts allow for fast positioning over inline pipe



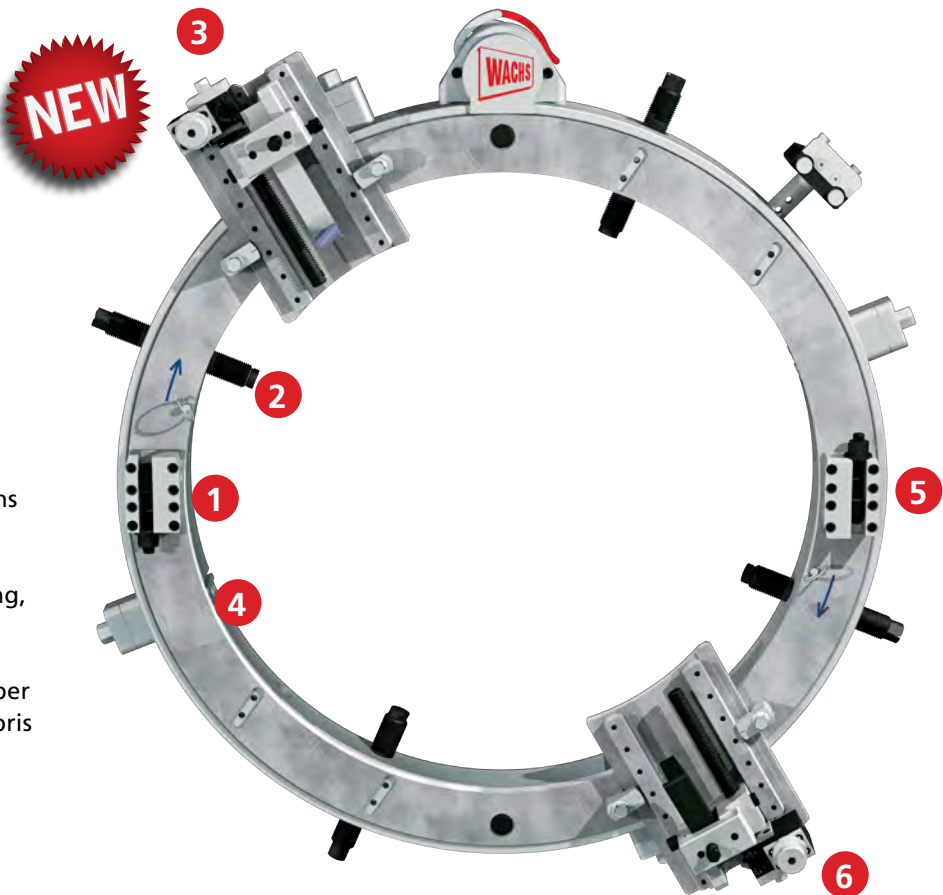
Screw feet reverse and also accept push-in buttons and pins



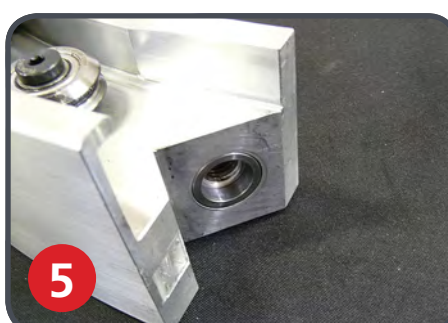
Rapid advance and retract feature speeds positioning of tooling

24in (610 mm) DYNAPREP MDSF

- Only two sockets, 1/2in (13mm) and 3/4in (19mm), needed for setup and operation
- Ring sizes 24in (610mm) and up use eight clamping feet for squaring and stability
- New indexed, squaring clamping leg design features a 2in (50mm) stroke
- Single clamp pad extension covers a 6in (152mm) pipe diameter range
- Clamp pads mount axially without removing the machine from the pipe
- U shaped feet pair with push in buttons and points for miter or elbow mounting
- Screw feet reverse for internal clamping, also accept push in buttons and points
- All models feature replaceable felt wiper for lubrication and to capture chip debris
- New design swing bolts allow for fast positioning over inline pipe



Clamp pads mount axially without removing the machine from the pipe



Patent pending V Lock ring mating surfaces are easier to join and stronger



All new no-time starwheel works with newly designed trip to prevent crashing

DynaPrep MDSF Split Frame



DynaPrep MDSF more powerful form tooling capability

We're pleased to introduce the all new DynaPrep™ MDSF Split Frame series. As the innovators and market leader in split frame technology, at E.H. Wachs we continually evolve our products to meet the needs of our clients. Needs such as split frames that were easier to set up, easier to operate, and more powerful to handle heavy wall form tooling. We've also incorporated what makes our LCSF Low Clearance Split Frames great: their low clearance design that fits into tight spaces, lightweight construction, and the wide range of versatile accessories.

Engineered to surpass anything available today, these machines are built to be the best. Our core design principal during development was power combined with durability. In ancient Greece Dyna translated to power - at E.H. Wachs DynaPrep translates to maximum power in cold cutting weld prep machine tools.

Like every E.H. Wachs split frame, the DynaPrep MDSF is the basis of a complete machining system that will be used worldwide for simple cutting and beveling tasks to complex tasks, including trepanning, casing cutting, deep counterboring, large diameter flange facing, and SGR replacement projects; all completed with a precision measurable in thousandths of an inch. Order your machine as a complete kit or ala carte depending on your needs.

MDSF 3HP RIGHT ANGLE PNEUMATIC KIT

	in	mm	DESCRIPTION	CODE	PART #
MDSF 612	6 - 12	DN150 - 300	12in (305mm) Split Frame Air Kit	969 500 012	69-5000-12
MDSF 814	8 - 14	DN200 - 350	14in (356mm) Split Frame Air Kit	969 500 014	69-5000-14
MDSF 1016	10 - 16	DN250 - 400	16in (406mm) Split Frame Air Kit	969 500 016	69-5000-16
MDSF 1218	12 - 18	DN300 - 450	18in (457mm) Split Frame Air Kit	969 500 018	69-5000-18
MDSF 1420	14 - 20	DN350 - 500	20in (508mm) Split Frame Air Kit	969 500 020	69-5000-20
MDSF 1824	18 - 24	DN450 - 600	24in (610mm) Split Frame Air Kit	969 500 024	69-5000-24

MDSF 4HP PNEUMATIC KIT

	in	mm	DESCRIPTION	CODE	PART #
MDSF 612	6 - 12	DN150 - 300	12in (305mm) Split Frame Air Kit	969 500 112	69-5001-12
MDSF 814	8 - 14	DN200 - 350	14in (356mm) Split Frame Air Kit	969 500 114	69-5001-14
MDSF 1016	10 - 16	DN250 - 400	16in (406mm) Split Frame Air Kit	969 500 116	69-5001-16
MDSF 1218	12 - 18	DN300 - 450	18in (457mm) Split Frame Air Kit	969 500 118	69-5001-18
MDSF 1420	14 - 20	DN350 - 500	20in (508mm) Split Frame Air Kit	969 500 120	69-5001-20
MDSF 1824	18 - 24	DN450 - 600	24in (610mm) Split Frame Air Kit	969 500 124	69-5001-24

MDSF HYDRAULIC KIT

	in	mm	DESCRIPTION	CODE	PART #
MDSF 612	6 - 12	DN150 - 300	12in (305mm) Split Frame Hydraulic Kit	969 510 012	69-5100-12
MDSF 814	8 - 14	DN200 - 350	14in (356mm) Split Frame Hydraulic Kit	969 510 014	69-5100-14
MDSF 1016	10 - 16	DN250 - 400	16in (406mm) Split Frame Hydraulic Kit	969 510 016	69-5100-16
MDSF 1218	12 - 18	DN300 - 450	18in (457mm) Split Frame Hydraulic Kit	969 510 018	69-5100-18
MDSF 1420	14 - 20	DN350 - 500	20in (508mm) Split Frame Hydraulic Kit	969 510 020	69-5100-20
MDSF 1824	18 - 24	DN450 - 600	24in (610mm) Split Frame Hydraulic Kit	969 510 024	69-5100-24

MDSF ROTATING RING ASSEMBLIES

Ring assemblies are an affordable way to expand your pipe working range if you already have tool slides, trips, and drive motors.

	in	mm	INSIDE DIAMETER	CODE	PART #
MDSF 612	6in-12in	DN150 - 300	12in (305mm)	969 000 012	69-0000-12
MDSF 814	8in-14in	DN200 - 350	14in (356mm)	969 000 014	69-0000-14
MDSF 1016	10in-16in	DN250 - 400	16in (406mm)	969 000 016	69-0000-16
MDSF 1218	12in-18in	DN300 - 450	18in (457mm)	969 000 018	69-0000-18
MDSF 1420	14in-20in	DN350 - 500	20in (508mm)	969 000 020	69-0000-20
MDSF 1824	18in-24in	DN450 - 600	24in (610mm)	969 000 024	69-0000-24

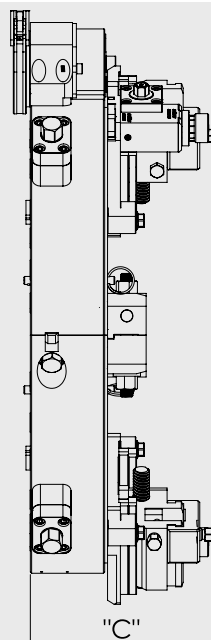
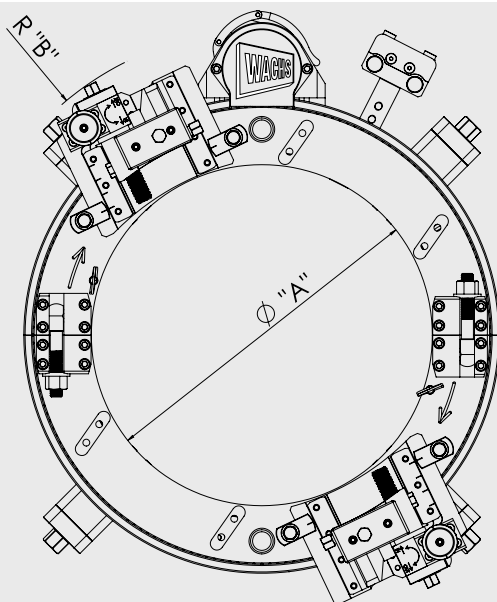


DynaPrep MDSF Pneumatic Kit

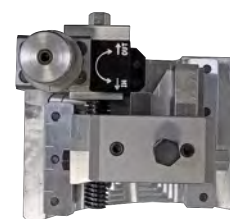


DynaPrep MDSF Split Frame 24in (610mm) Ring Set

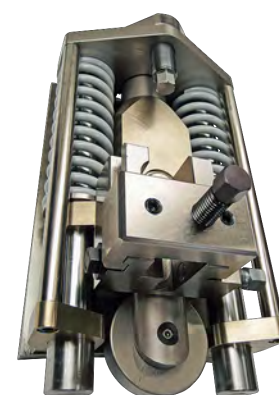
DynaPrep MDSF Split Frame



12in DynaPrep MDSF Split Frame



DynaPrep MDSF
1.5in Slide

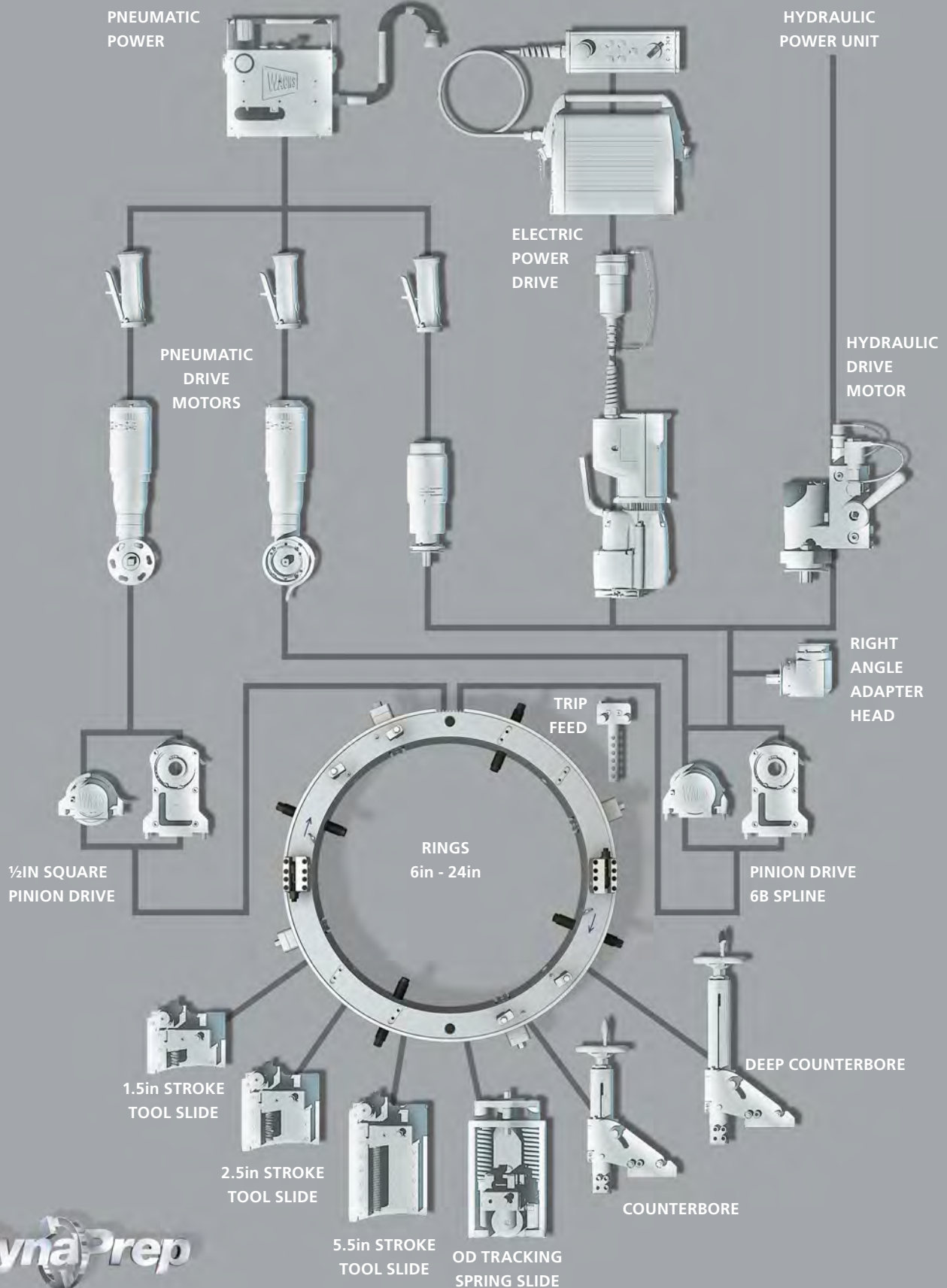


DynaPrep MDSF
O.D. Tracking Spring Slide

SPECIFICATIONS

MODELS		612	814	1016	1218	1420	1824
MACHINE CAPACITY							
Pipe OD Metric	mm	168.3 - 323.85	219.1 - 355	273.1 - 406.4	305-457	355.6 - 508	457 - 610
Pipe NPS	inch	6.625 - 12.75	8.625 - 14.0	10.75 - 16.0	12.0-18.0	14.0 - 20.0	18.0 - 24.0
DIMENSIONS							
A dimension	mm	336.55	368.3	419.1	470	520.7	635
	inch	13.25	14.5	16.5	18.5	20.5	25
TOOL SLIDE TOOL STROKE 1.5in (38.1mm)							
B dimension	mm	300.99	320.294	345.694	371.094	396.494	453.644
	inch	11.85	12.61	13.61	14.61	15.61	17.86
TOOL SLIDE TOOL STROKE 2.5in (63.5mm)							
B dimension	mm	330.2	350.52	375.92	401.32	426.72	483.87
	inch	13	13.8	14.8	15.8	16.8	19.05
TOOL SLIDE TOOL STROKE 5.5in (139.7mm)							
B dimension	mm	406.4	426.72	452.12	477.52	502.92	560.07
	inch	16	16.8	17.8	18.8	19.8	22.05
C dimension	mm	182.88	182.88	182.88	182.88	182.88	182.88
	inch	7.2	7.2	7.2	7.2	7.2	7.2
OD TRACKING SLIDE							
B dimension	mm	442.722	457.2	482.6	508	533.4	330.2
	inch	17.43	18	19	20	21	13
C dimension	mm	215.9	215.9	215.9	215.9	215.9	215.9
	inch	8.5	8.5	8.5	8.5	8.5	8.5
COUNTERBORE SLIDE SHORT							
C dimension	mm	439.166	439.166	439.166	439.166	439.166	439.166
	inch	17.29	17.29	17.29	17.29	17.29	17.29
COUNTERBORE SLIDE DEEP							
C dimension	mm	515.366	515.366	515.366	515.366	515.366	515.366
	inch	20.29	20.29	20.29	20.29	20.29	20.29
WEIGHTS							
Machine	kg	32	36	39	43	46	52
	lbs	71	79	87	95	102	114
Shipping	kg	60	67	74	81	87	198
	lbs	133	147	164	178	192	438

DynaPrep MDSF Split Frame



DynaPrep MDSF Split Frame

MDSF DRIVE MOTORS

Wachs offers a newly expanded range of pneumatic, hydraulic and electric drive motor options, up to a full 10 hp (8 kW), offering the power and durability required to drive the MDSF to its full form tooling potential.

	IMPERIAL	METRIC	CODE	PART #
2.5HP LCSF Pneumatic Reversible	2.5 hp	1.9 kW	960 401 001	60-4010-01
3HP Pneumatic Motor Right Angle	3 hp	2.2 kW	969 435 100	69-4351-00
3HP Pneumatic Motor Right Angle with Handle	3 hp	2.2 kW	969 435 300	69-4353-00
4HP Pneumatic Motor	4 hp	3.0 kW	969 435 500	69-4355-00
4HP Pneumatic Motor with Handle	4 hp	3.0 kW	969 435 600	69-4356-00
EPD Electric Power Drive Single Phase (230v)	4 hp	3.0 kW	960 133 501	69-4357-01
EPD Electric Power Drive 3-Phase (220v-480v)	10 hp	8.0 kW	960 133 503	69-4357-03
Hydraulic Drive Motor	7.8 hp	5.8 kW	969 435 700	69-4357-00
Adapter Head Right Angle			969 435 900	69-4359-00

MDSF PINION DRIVE

It's said that with great power comes great responsibility. Newly designed 1/2in (12.7mm) square and advanced 6B splined pinion drives are responsible for putting down the power with their stronger, heat treated gear sets.

	in	mm	CODE	PART #
Legacy Pinion Standard	1/2in Square	12.7mm Square	969 448 000	69-4480-00
Legacy Pinion Front Drive	1/2in Square	12.7mm Square	969 448 100	69-4481-00
Spline Drive Pinion Standard (Tool Free)	6B Spline	6B Spline	969 448 200	69-4482-00
Spline Drive Pinion Front Drive (Tool Free)	6B Spline	6B Spline	969 448 300	69-4483-00

MDSF TRIP FEED

Advanced dual pin design that eliminates the need to time the starwheel prevents crashes and is engineered to accommodate optional pneumatic and electric powered remote trip control.

DESCRIPTION	CODE	PART #
Trip - Dual	969 474 000	69-4740-00
Trip - Dual - Remote	969 474 100	69-4741-00
Trip - Dual 5.5in Adapter	969 474 200	69-4742-00
Trip - Counter Adapter, EICC	969 474 300	69-4743-00
Trip - ODT	969 474 400	69-4744-00

MDSF MISCELLANEOUS ACCESSORIES

Perform casing cutting and more with the new line of DynaPrep MDSF Accessories.

DESCRIPTION	CODE	PART #
Leg Set - Axial	969 480 500	69-4805-00
ECC External Casing Cutter 7-13	969 481 000	69-4810-00
EICC External / Internal Casing Cutter Adapter (multiple sizes)	969 482 000	69-4820-00
Leg Pad Set	969 480 200	69-4802-00
Laser Alignment Tool	969 480 600	69-4806-00

AIR TREATMENT MODULE

Pneumatic power is the first choice of most field machinists, but untreated air can be rough on even the toughest air motors. Wachs ATM Air Treatment Modules condition and regulate the incoming air to extend motor life.

DESCRIPTION	CODE	PART #
AIR TREATMENT MODULE	969 410 000	69-4100-00
AIR TREATMENT MODULE REMOTE	969 410 100	69-4101-00
NON-CE W/ SHIPPING CASE	-	69-4102-00



Multiple drive options are available for DynaPrep MDSF



All New DynaPrep MDSF Tool-Free 6B Spline Drive Pinion



All New dual pin design that eliminates star wheel timing



Leg Pad Set

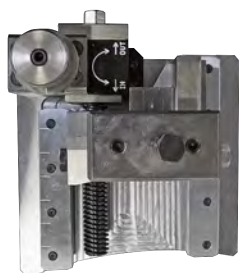


Laser Alignment Tool



Air Treatment Module ATM

DynaPrep MDSF Split Frame



DynaPrep MDSF
2.5in Stroke Slide



DynaPrep MDSF
5.5in Stroke Slide



DuoEdge Tooling
37 1/2° Outside Bevel for
DynaPrep MDSF



DuoEdge Holder
37 1/2° Outside Bevel for
DynaPrep MDSF



Conventional Tooling for
DynaPrep MDSF

TOOL SLIDE SETS

Groundbreaking design with multiple patent pending features including Rapid Advance & Retract, MDSF tool slides are available in standard and high feed models plus dedicated standard and deep counterboring slides.

DESCRIPTION	CODE	PART #
SLIDE SET - 1.5in STROKE	969 521 503	69-5215-03
SLIDE SET - 2.5in STROKE	969 522 503	69-5225-03
SLIDE SET - 5.5in STROKE	969 525 503	69-5255-03
SLIDE SET - 1.5in STROKE - HIGH FEED	969 521 506	69-5215-06
SLIDE SET - 2.5in STROKE - HIGH FEED	969 522 506	69-5225-06
SLIDE SET - 5.5in STROKE - HIGH FEED	969 525 506	69-5255-06
SLIDE SET - O.D. TRACKING	969 460 400	69-4604-00
SLIDE - 3in (76mm) COUNTER BORE SHORT	969 460 500	69-4605-00
SLIDE - 6in (152mm) COUNTER BORE DEEP	969 460 600	69-4606-00

TOOLING

The industry's most innovative split frame deserves the most advanced tooling.

DESCRIPTION	APPLICATION	MATERIAL	CODE	PART #
DUOEDGE HOLDER 37 1/2° INSIDE BEVEL	Bevel Cutting	Coated Steel	969 700 201	69-7002-01
DUOEDGE HOLDER 37 1/2° OUTSIDE BEVEL	Bevel Cutting	Coated Steel	969 700 301	69-7003-01
DUOEDGE HOLDER 30° INSIDE BEVEL	Bevel Cutting	Coated Steel	969 700 401	69-7004-01
DUOEDGE HOLDER 30° OUTSIDE BEVEL	Bevel Cutting	Coated Steel	969 700 501	69-7005-01
DUOEDGE INSERT	30° & 37 1/2° Inside Bevel	Bevel Cutting	HSS	969 700 202
DUOEDGE INSERTS (5 pk)	30° & 37 1/2° Inside Bevel	Bevel Cutting	HSS	969 700 212
DUOEDGE INSERT	30° & 37 1/2° Outside Bevel	Bevel Cutting	HSS	969 700 302
DUOEDGE INSERTS (5 PK)	30° & 37 1/2° Outside Bevel	Bevel Cutting	HSS	969 700 312
DUOEDGE HOLDER FORM TOOL 4:1	Counterbore	Coated Steel	969 700 700	69-7007-00
DUOEDGE HOLDER SINGLE POINT	Counterbore	Coated Steel	969 700 701	69-7007-01
DUOEDGE HOLDER FLANGE FACING	For 56-710-00	Coated Steel	969 700 703	69-7007-03
DUOEDGE HOLDER SINGLE POINT	Single Point Bevel	Coated Steel	960-718-000	60-718-00
DUOEDGE SINGLE POINT HOLDER	Insert Tooling Holder	Coated Steel	960-718-000	60-718-00
DUOEDGE INSERT	Single Point Carbon Steel	HSS	981 701 010	81-701-01
DUOEDGE INSERT 10-PACK	Single Point Carbon Steel	HSS	981 701 100	81-701-10
DUOEDGE PREMIUM INSERT	Single Point Stainless steel	981 701 009	81-701-00P	81-701-01P
DUOEDGE PREMIUM INSERT 10-PACK	Single Point Stainless steel	981 701 109	81-701-10P	81-701-10P
DUOEDGE INSERT SINGLE PACK	High-temp alloys	Carbide	981 703 010	81-703-01
DUOEDGE INSERT 10-PACK	High-temp alloys	Carbide	981 703 100	81-703-10
DUOEDGE TRIPLE POINT INSERT	Flange Facing	HSS	956 710 000	56-710-00
DUOEDGE J-PREP BEVEL INSERT	3/32in (2.39mm) radius	HSS	981 704 010	81-704-01
DUOEDGE J-PREP BEVEL INSERT	1/8in (3.18mm) radius	HSS	981 705 010	81-705-01
DUOEDGE J-PREP BEVEL INSERT	3/16in (4.76mm) radius	HSS	981 706 010	81-706-01
DUOEDGE J-PREP BEVEL INSERT	1/4in (6.35mm) radius	HSS	981 707 010	81-707-01
TOOLING HOLDER COMPOUND BEVELING	10-37 1/2° Inside Bevel	Coated Steel	969 700 801	69-7008-01
TOOLING HOLDER COMPOUND BEVEL	10-37 1/2° Outside Bevel	Coated Steel	969 700 901	69-7009-01
TOOLING INSERT COMPOUND BEVEL	10-37 1/2° Inside Bevel	HSS	969 700 802	69-7008-02
TOOLING INSERTS (5 Pk)	10-37 1/2° Inside Bevel	HSS	969 700 812	69-7008-05
TOOLING INSERT COMPOUND BEVEL	10-37 1/2° Outside Bevel	HSS	969 700 902	69-7009-02
TOOLING INSERTS (5 Pk)	10-37 1/2° Outside Bevel	HSS	969 700 912	69-7009-05
3/16in x 3 7/16in (4.76mm x 87mm) PARTING TOOL	Up to 1in (25.4mm) wall	HSS	943 711 000	43-711-00
3/16in x 3 7/16in (4.76mm x 87mm) PARTING TOOL	Up to 1in (25.4mm) wall	HSS Premium	943 711 000	43-711-00P
3/16in x 5in (4.76mm x 127mm) PARTING TOOL	Up to 1in (25.4mm) wall	HSS	943 711 010	43-711-01
3/16in x 5in (4.76mm x 127mm) PARTING TOOL	Up to 1in (25.4mm) wall	HSS	943 711 010	43-711-01P
1/4in x 6in (6.35mm x 152mm) PARTING TOOL	Up to 2in (50.8mm) wall	HSS	960 711 000	60-711-00
1/4in x 6in (6.35mm x 152mm) PARTING TOOL	Up to 2in (50.8mm) wall	HSS	960 711 000	60-711-00P
4.3in (110mm) INSERT HOLDER KIT	For 60-717-00	Carbide	960 716 000	60-716-00
3/16in (4.76mm) PARTING INSERT	Up to 1.5in (38.1mm) wall	Carbide	960 717 000	60-717-00
4.3in (110mm) INSERT HOLDER KIT	For 60-715-00	Carbide	960 714 000	60-714-00
1/4in (6.35mm) PARTING TOOL INSERT	Up to 1.5in (38.1mm) wall	Carbide	960 715 000	60-715-00
10.24in (260mm) INSERT HOLDER KIT	For 60-713-00	Carbide	960 712 000	60-712-00
5/16in (8mm) HEAVY WALL PARTING INSERT	Heavy Wall Parting	Carbide	960 713 000	60-713-00

Consult the factory for other applications or custom tooling.

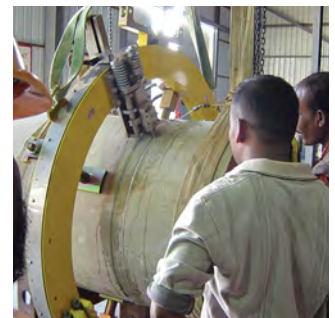
HDSF Heavy Duty Split Frame



Splits open for quick, easy mounting to pipe



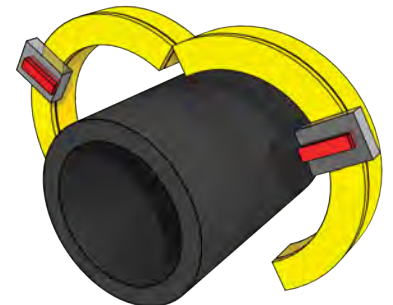
Simultaneously cuts and bevels out-of-round pipe



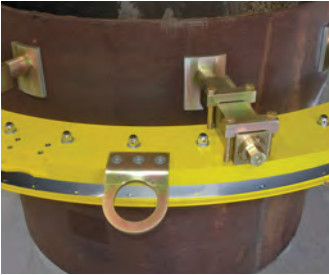
Out-of-Round Tracking Slides follow the pipe contour

BUILT FOR BIG JOBS IN THE FIELD

HDSF Heavy Duty Split Frame clamshell style machines are the largest and most rugged in the Wachs split frame family, and are designed to cut, bevel, single point, counterbore and face flanges on large diameter pipes from 12in to 84in O.D. (DN300-2100). Designed for parting and beveling of larger diameter pipelines in the field, the HDSF series is constructed with a bigger cross section, larger gear sets and massive hardened steel components.



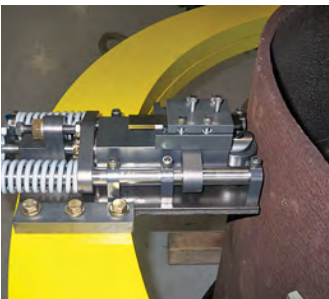
HDSF Heavy Duty Split Frame - Overview



Standard with lifting rings for horizontal or vertical mounting



Clamping Legs speed setup and handle multiple pipe diameters



Standard O.D. spring tracking slides for out-of-round pipe

The E.H. Wachs HDSF pipeline series of split frames are shipped as complete kits to handle typical large diameter cutting and beveling projects. For demanding applications or specialized operations, a select group of HDSF accessories are available for counterboring, heavy wall beveling and large diameter flange facing.

Built to the same exacting standards as the HDSF and specially designed for ruggedness, these accessories greatly extend the HDSF's machining capabilities. As part of a complete large diameter weld prep machining system, they're built to withstand the punishment of tough field usage, day in and day out.

Wachs HDSF Heavy Duty Split Frames are often referred to as "pipeline" machines, they're ideal for cutting and beveling large diameter pipelines in the field, where rugged reliability is more important than light weight or compact dimensions.

BUILT FOR BIG JOBS

Named for its ability to be split in half or scissor open for mounting to the O.D. of inline pipe, the HDSF split frame produces a precision lathe finish using Wachs cold cutting process. Unlike torch cutting and grinding, machining minimizes the risks associated with hot cutting, an important consideration anywhere hydrocarbons are present. Cold cutting also eliminates the undesirable HAZ (Heat Affected Zone) common with torching.

SIX STANDARD SIZES

Available in six standard sizes to cover the most common pipeline diameters (with custom sizes available by special order), each HDSF can accommodate a full 12in (305mm) range of diameters per machine size. Offered as complete kits, they're available in your choice of hydraulic or pneumatic drive with tool slides, trip and drive motor all included.

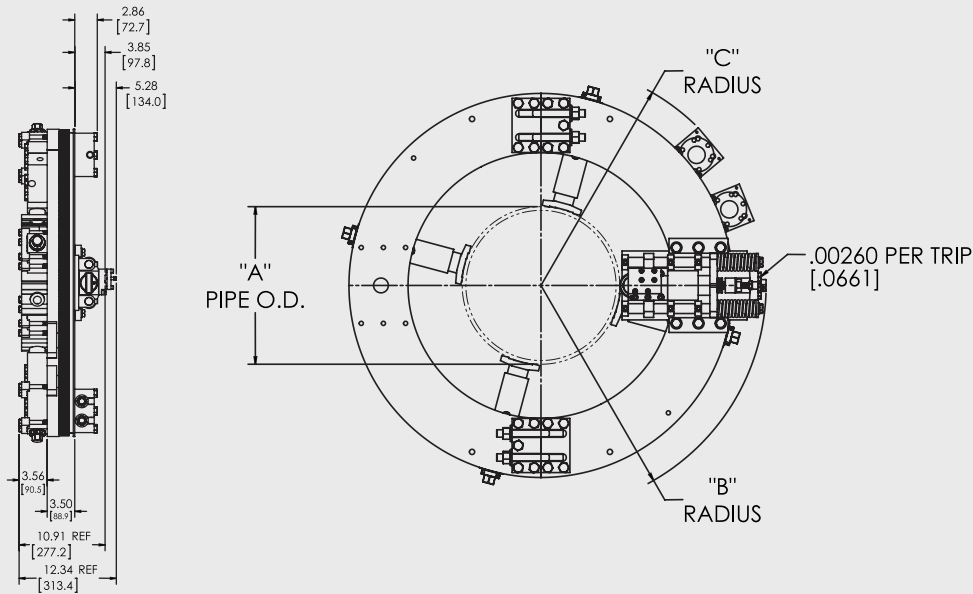
HDSF HEAVY DUTY SPLIT FRAME FEATURES

- Cuts and preps pipe from 12 to 84 inches O.D. (DN300-2100)
- Precise cold cutting process reduces risk of explosion, eliminates heat affected zone
- Fast setup, cutting and prep times with standard O.D. tracking tool slides
- Select hardened steel components, bigger cross section, larger gear sets
- Built in lifting eyes for vertical and horizontal mounting
- Standard ratcheting hinge mechanism opens and closes frame quickly
- Hydraulic or Pneumatic drive options
- Lathe machining process delivers precision compound bevels and consistent lands
- Applications in power generation, oil refineries, petrochemical and pipeline

HDSF DESIGN CAPABILITIES

- Six standard models cover 12 to 84 inches O.D. (DN300-2100)
- Larger sizes available by special order
- 12in (305mm) diameter capacity between the six standard HDSF models
- Larger interior frame clearance to accommodate obstructions and deformed pipe
- Full roller bearing (rather than bushing) load surfaces for durability and stability
- Fully enclosed bearings and drive gears for precision and durability
- Positive mechanical starwheel feed
- Corrosion resistant finishes on all components to withstand harsh environments
- Mounts to O.D. with drive motor and slides installed, ready to operate
- Accessories are interchangeable between all Wachs HDSF machines

HDSF Heavy Duty Split Frame - Specifications

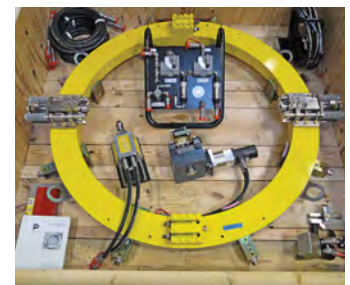


MODEL NUMBER	PART NUMBER	DIMENSION "A" PIPE OUTSIDE DIAMETER		DIMENSION "B" SLIDE CLEARANCE		DIMENSION "C" PINION CLEARANCE		OPERATING WEIGHT*	
		in	mm	in	mm	in	mm	lbs	kg
HDSF 1224	P03-010-424	12.75-24	323.9-609.6	21.24-26.86	539.5-682.3	22.61	547.4	950	431
HDSF 2436	P03-010-436	24-36	609.6-914.4	26.86-32.86	682.3-834.7	28.61	726.8	1200	544
HDSF 3648	P03-010-448	36-48	914.4-1219.2	32.86-38.86	834.7-987.0	34.61	879.2	1800	816
HDSF 4860	P03-010-460	48-60	1219.2-1524.0	38.86-44.86	987.0-1139.4	40.61	1031.6	2200	998
HDSF 6072	P03-010-472	60-72	1524.0-1828.8	44.86-50.86	1139.4-1291.8	46.61	1184	2600	1180
HDSF 7284	P03-010-484	72-84	1828.8-2133.6	50.86-56.86	1291.8-1444.2	52.61	1336.4	3000	1360

*Approximate operating weight, varies by drive and configuration.



HDSF mounts to pipe exterior for precision weld preparation



HDSF stores securely in provided shipping crate with accessories

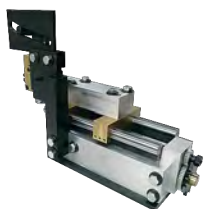


Perform weld preparation in the field or fabrication facility

HDSF Heavy Duty Split Frame - Accessories



Universal Counterbore Slide



HDSF Cantilever Slide



HDSF Dual Drive Motor



HDSF Milling Head

The E.H. Wachs HDSF pipeline series of split frames are shipped as complete kits to handle typical large diameter cutting and beveling projects. For demanding applications or specialized operations, a select group of HDSF accessories are available for counterboring, heavy wall beveling and large diameter flange facing.

Built to the same exacting standards as the HDSF and specially designed for ruggedness, these accessories greatly extend the HDSF's machining capabilities. As part of a complete large diameter weld prep machining system, they're built to withstand the punishment of tough field usage, day in and day out.

With accessories, HDSF Heavy Duty Split Frames can be configured to compound bevel, counterbore, bevel heavy wall pipe and face large diameter flanges.

UNIVERSAL COUNTERBORE SLIDE ASSEMBLIES

Max. axial travel: 1 $\frac{3}{4}$ in (44.5 mm). Mounts to bevel tool slide.

ITEM	CODE	PART NUMBER
Universal counterbore slide module for Wachs LCSF.	960 405 820	60-405-UC
Counterbore tool bit taper 4:1 (14°) for use with counterbore slide module	960 700 040	60-700-04

HDSF CANTILEVER SLIDE

The HDSF Cantilever Slide is a multipurpose slide that can be configured to counterbore, bevel heavy wall and face large diameter flanges, even those coated with exotic materials. Made with hardened materials, the HDSF Cantilever Slide is gear driven for powering through the toughest and heaviest pipe wall and material. Universal fit to all HDSF ring sizes, templates for compound and J-Prep bevels are included.

HDSF DUAL DRIVE MOTOR

The HDSF Dual Drive Motor option includes two pinion drives and two drive motors, and allows the HDSF to smoothly and effortlessly cut and bevel the toughest material and the heaviest wall thickness. The combination of two drives dramatically increases the available torque, and produces an even finer finish due to the regulating action of the second drive.

HDSF END MILLING HEAD

The HDSF End Mill Head cuts and bevels pipe of any wall thickness, including materials up to X80 carbon steel. The low friction adjustable bearing system provides maximum stability and extended machine life and includes a fully enclosed bearing and drive gear system for operational stability.

SPECIFICATIONS

- Cutting Tool Speed: 0-250. (Ideal operating 11 g.p.m at 230 RPM).
- Cutting Tool Size: 3/4in Cobalt roughing end mill.
- Hydraulic Drive Requirements: 15 Gallons per Minute @ 2000 PSI minimum.
- Feed Method: Gear drive Hydraulic. Cutter plunge manual feed.
- Feed Rate: 0-2 inches per minute. (Ideal feed rate 1-1/2 at 3 g.p.m).
- Finish: Milling N8 to N9. Beveling 250 to 125 (6.3 to 3.2).
- Packaging: Heavy duty storage case. (Wood container).

LDSF Large Diameter Split Frame



Four standard LDSF sizes cover 60in-120in (DN1500-3000)



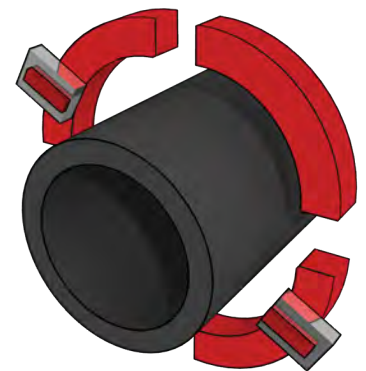
LDSF splits into quadrants for setup, transport and storage



LDSF standard dual hydraulic drive motors & dual pinion housings

DESIGNED FOR LARGE AND VERY LARGE DIAMETER PIPES AND VESSELS

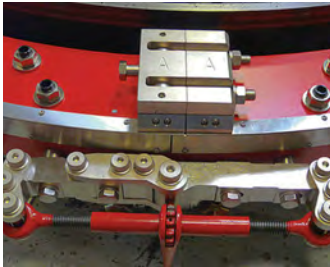
E.H. Wachs LDSF Large Diameter Split Frame is designed for cold cutting, beveling, facing and counterboring on large diameter pipes, vessels and flanges. It's been engineered to incorporate multiple advancements designed to make it stronger, faster to set up, faster to operate and even more versatile than our class leading HDSF models. Picking up where our midsize split frames leave off, four standard LDSF sizes will cover a range from 60in to 120in OD (DN1500-DN3000).



LDSF Large Diameter Split Frame - Overview



LDSF Split Frame



Designed to split into quadrants without sacrificing rigidity, swing bolts and ratcheting hinge mechanism speeds assembly and mounting

SPLITS INTO QUADRANTS FOR EASY INSTALLATION IDEAL FOR STEAM GENERATOR REPLACEMENT (SGR)

- All new design for large and very large diameter pipes and vessels
- Four standard LDSF sizes cover a 60in to 120in OD range (DN1500-3000)
- 15in (381 mm) diameter range between the four standard LDSF models
- Splits into quadrants for easier storage, transport and set-up
- All steel construction for durability and rigidity
- Common size, fully captivated fasteners used throughout
- Quick release, adjustable height setup legs, 3 per quadrant
- Self squaring mounting system features axially adjustable clamping legs with micro adjustment
- Rigging blocks with multi-axial lifting eyes allow horizontal or vertical lifting
- Available remote control trip actuation

LDSF LARGE DIAMETER SPLIT FRAME

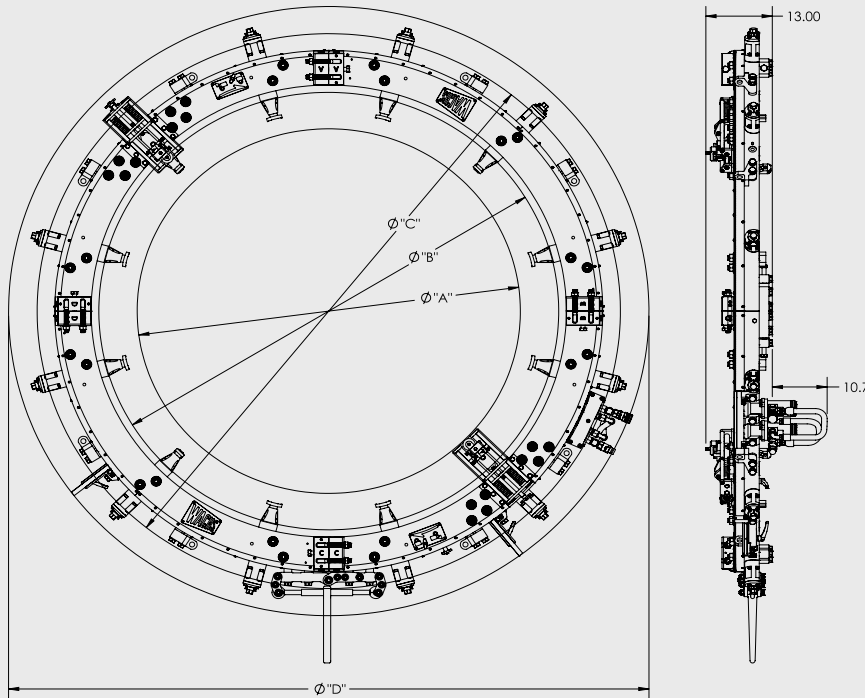
The internal, full bearing construction contributes to the LDSF's smooth operation and long service life. Spring loaded OD tracking slides for irregularly shaped or out-of-round pipe and vessels are standard, and allow the tooling to maintain continuous contact, producing precision weld preps with consistent lands. A new patent pending CRBM Counterboring and Reverse Bevel module counterbores in vertical orientation, and reverse bevels in angled orientation. The LDSF takes corrosion protection to a new level with virtually every surface treated. Its attractive red powder coated finish proudly reflects E.H. Wachs famous red and black corporate colors.

ADDITIONAL FEATURES:

- Reinforcing stiffener blocks at the split lines offer increased rigidity
- Hinged open/close mechanism to simplify machine mounting
- Frame fastening swing bolts holds ring frames in place during assembly
- Dual hydraulic drive motors require less clearance than one large motor
- Drive motors utilize Wachs new universal quick mount drive assembly
- Fully adjustable mounting legs replace traditional bolt on spacer feet
- Legs offer both ID and OD clamping options
- Optional Counterboring module for perpendicular and angled counterbores
- Designed to use a minimum number of hand tools
- New trip design with breakaway trip mount helps prevent crashes

SPECIFICATIONS	UNITS	LDSF 75	LDSF 90	LDSF 105	LDSF 120
Machine capacity range Dimension "A - B" (Nominal Pipe Size)	mm	DN 1500 - 1875	DN 1875 - 2250	DN 2250 - 2625	DN 2625 - 3000
	inch	60 - 75	75 - 90	90 - 105	105 - 120
Dimension "C" pinion clearance	mm	2216.2	2597.2	2978.2	3535.35
	inch	87.25	102.25	117.25	135.25
Dimension "D" slide clearance	mm	2355.9	2736.9	3117.9	3498.9
	inch	92.75	107.75	122.75	137.75
Machine height	mm	330.2*	330.2*	330.2*	330.2*
	inch	13*	13*	13*	13*
Hydraulic motor height	mm	271.8**	271.8**	271.8**	271.8**
	inch	10.7**	10.7**	10.7**	10.7**

LDSF Large Diameter Split Frame - Specifications

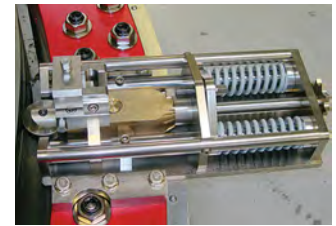


SYSTEM FUNCTION	Split Frame machine tool designed to part, bevel and counterbore large diameter pipes and vessels.
SYSTEM CAPACITY	Machines large diameter pipes and vessels from 60in to 120in OD (DN 1500 - 3000), varies by model number.
DRIVE OPTIONS	Hydraulic
CUTTING TOOL SURFACE SPEED	Adjustable, 60 surface ft/min (18.28 m/min)
HYDRAULIC POWER REQUIREMENTS	14 gpm at 1800 PSI (53 lpm at 124 bar)
FEED METHOD	Positive mechanical starwheel
FEED RATE	Fixed trip rate .0030in (.0762 mm) per trip
CONSTRUCTION	<ul style="list-style-type: none"> Alloy steel stationary and rotating rings Alloy mounting legs High capacity bearings Dual heavy duty pinion housings Ratcheting hinge mechanism Powder coated corrosion resistant finish
STANDARD EQUIPMENT	<ul style="list-style-type: none"> Dual hydraulic drive motors Heavy duty OD tracking tool slides Breakaway single trip assembly Lifting hooks for vertical or horizontal mounting Ratcheting mechanism for hinging machine open and closed Self squaring mounting system with axially adjustable clamping legs Sealed dual pinion housings Custom wood storage case and quadrant end protectors Operating hand tools and manual
OPTIONAL EQUIPMENT	<ul style="list-style-type: none"> Counterbore and Reverse Bevel Module Cantilever Tool Slide Remote Control Kit Genuine Wachs Tooling

* Reduction of available envelope is possible by removing stiffening blocks.

** Standard drive motor configuration. Reduced clearance options available.

Item	Version	Code	Part Number
LDSF Large Diameter Split frame 75	Hydraulic	ON REQUEST	12-042-5100-75
LDSF Large Diameter Split frame 90	Hydraulic	ON REQUEST	12-042-5100-90
LDSF Large Diameter Split frame 105	Hydraulic	ON REQUEST	12-042-5100-105
LDSF Large Diameter Split frame 120	Hydraulic	ON REQUEST	12-042-5100-120



LDSF includes heavy-duty O.D. out-of-round tracking slides



All new trip design features a breakaway mount to prevent frame damage

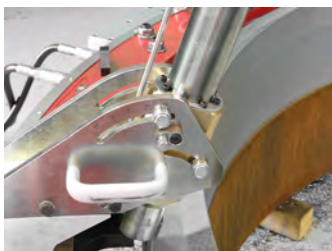


Optional counterbore and reverse beveling module (patent pending)



Optional Cantilever Slide (patent pending)

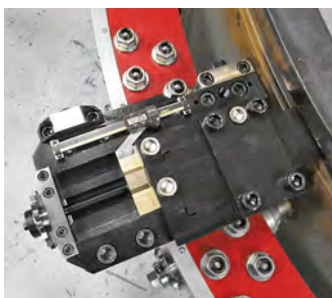
LDSF Large Diameter Split Frame - Accessories



Pivoting Autofeed Slide in position for single pointing



Cantilever template head loaded into parting slide base



LDSF Parting Slide with micrometer for precision

PIVOTING AUTOFEED TOOL

The LDSF Pivoting Autofeed Slide is designed for I.D. or O.D. turning, facing and beveling up to a plus or minus 20° angle with a 12in (305mm) stroke. It's the ideal solution for large diameter vessels, including steam generators, used in oil and gas and power generation applications.

DESCRIPTION	PART NUMBER
PIVOTING AUTOFEED	13-032-5402-00

CANTILEVER TEMPLATE HEAD

The LDSF Cantilever Template Slide is a multipurpose slide that can be configured to bevel heavy wall pipe and vessels and face large diameter flanges. The Cantilever Template Slide utilizes standard and custom made interchangeable templates to perform precise compound bevels.

DESCRIPTION	PART NUMBER
CANTILEVER TEMPLATE SLIDE	13-032-5403-00

PARTING SLIDE

The LDSF Parting Slide features digital read out (DRO) for precise radial position indication. Their modular design allows for multiple parting and beveling configurations. The LDSF Parting Slide also serves as the mounting platform for the Pivoting Autofeed and Cantilever Template slides.

DESCRIPTION	PART NUMBER
PARTING SLIDE	13-032-5401-00

TRAV-L-CUTTER Pipe Cutter



Horizontal and vertical cutting



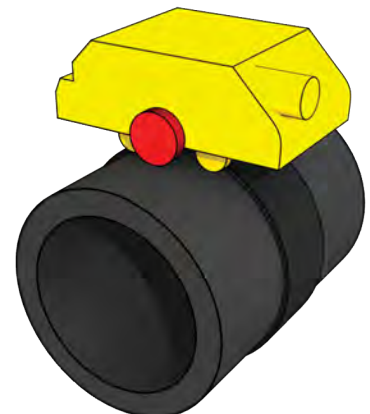
Fast and accurate cutting and beveling



Add mounting chain sections to fit larger diameters

COLD CUTTING, COMPACT DESIGN, EASY SET-UP

The Wachs Trav-L-Cutter is a portable milling machine capable of cold cutting and beveling simultaneously on all machinable pipe materials, pipe schedules and pipe sizes from OD 6in - 72in (152.4 - 1829 mm). Mounted by its own tensioning chain, the Trav-L-Cutter drives itself around the pipe as it machines. For larger diameter pipe or vessels, simply add more drive chain sections. For greater accuracy specify the Trav-L-Cutter Guide Track. Available in pneumatic and hydraulic drive options.



TRAV-L-CUTTER Pipe Cutter - Overview



Model HE Hydraulic



Trav-L-Cutter secure for shipping in steel storage case



Model HE Hydraulic Trav-L-Cutter suitable for full immersion



First generation Trav-L-Cutter photo circa 1952

PORTABLE MILLING MACHINES

- Safe cold cutting
- Simultaneously cutting and beveling
- Compact design, easy set-up
- Horizontal and vertical cutting
- Wide dimension range

FAST AND ACCURATE

Wachs high-performance cutters remove 3/16in (4.8 mm) of metal while cutting, leaving the pipe end with a smooth, machined finish. The chain feed system maintains continuous out-of-round compensation while providing constant drive under all conditions for accurate cuts. By using an optional guide track and special guide track wheels, higher accuracy can be maintained. This cutting method facilitates section removal in the field where new sections, pre-cut by the same method, can be easily dropped into place.

OPERATES ANYWHERE

In pneumatic or hydraulic driven models, the Trav-L-Cutter will operate on horizontal or vertical pipe, in the field or the shop.

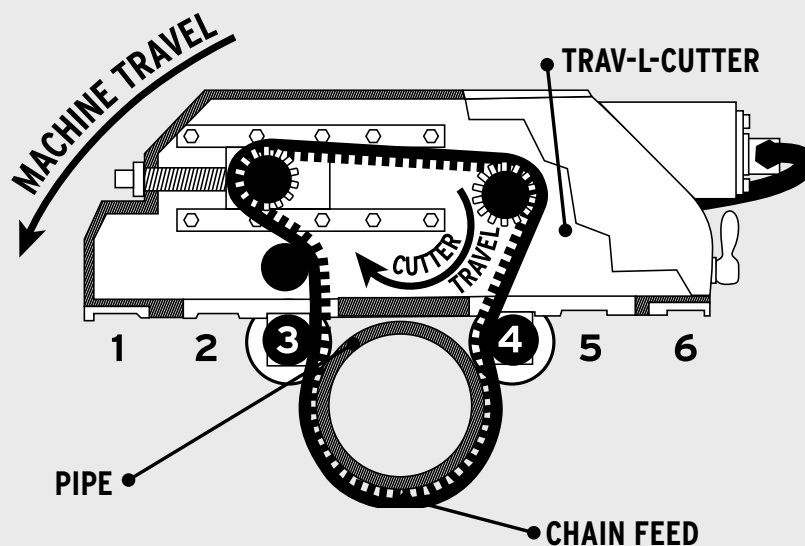
ALL PIPE DIAMETER INCLUDING TANKS

Materials such as carbon steel, ductile iron, cast iron and most alloys in all pipe sizes from 6in to 72in (152.4 - 1829 mm) can be cold cut and beveled simultaneously.

HYDRAULIC TRAV-L-CUTTER

Hydraulic models offer the inherent advantages of a completely sealed and self-lubricating closed loop system. The Model HE is particularly suited to field machining operations under the type of hostile conditions often found on offshore drilling rigs, pipelines and other construction work. Corrosion from constant exposure to salt water can be minimized with a stainless steel accessory package including special bearings, seals and anti-corrosive metal coatings.

MACHINE OPERATION DIAGRAM



TRAV-L-CUTTER Pipe Cutter - Specifications

SPECIFICATIONS	TRAV-L-CUTTERS
MACHINING CAPACITY	6in - 72in (153 - 1829 mm)
CUTTER DRIVE	Pneumatic: 2.9 kW (4 hp) governed air motor coupled with worm gearbox. Hydraulic: As above, with hydraulic motor.
CUTTER SPEED	Pneumatic: Adjustable from 35 - 55 rpm for use on work-hardened alloys. Hydraulic: Adjustable from 0 - 60 rpm.
FEED	<ul style="list-style-type: none"> Pneumatic: 0.56 kW (3/4 hp) air motor coupled through overload clutch, gearbox and chain reduction to final machine drive sprocket. Hydraulic: 2.9 kW (4 hp) hydraulic motor.
FEED METHOD	Positive, nonslip chain drive
AIR REQUIREMENTS	2.8 m³/min (100 cfm at 90 psi)
HYDRAULIC REQUIREMENTS	55 l/min (15 gal/min at 1500 psi)
WORK SPEED	<ul style="list-style-type: none"> 76.2 mm (3in) of surface feed per minute, max. Provides cutting time of 1 min/inch of pipe diameter. 10in (254 mm) = 10 minutes. Over 1/2in (12.7 mm) wall as well as most alloys require reduced feed rate.
CLEARANCE	Radial: 10in - 12in (254 - 305 mm) Axial: 20in (508 mm)
CONTROLS (MODEL E AND HE)	Cutter on-off, feed on-off, with interlock to prevent machine feed unless cutter is turning, adjustable feed control. Flow control valves (Model HE only). Separate controls provide adjustable spindle speed and cutter speed. Forward/reverse valve governs machine travel direction.
WEIGHT	Operating: 97.5 kg (215 lbs) Shipping: 189.6 kg (418 lbs)
FINISH	Paint
DIMENSIONS (LXWXH)	61 cm x 51 cm x 28 cm 24in x 20in x 10.75in
STANDARD EQUIPMENT	<ul style="list-style-type: none"> Twin drive motors (air or hydraulic) Air line lubricator (air only) Filter (air only) Speed control (hydraulic only) Operating manual and isometric parts list Operating tools Spare chain Connecting pins Basic mounting chain for 6in - 48in (152.4 - 1219.2 mm) dia. pipe Steel storage case Reversible feed motor 6ft whip hose without oiler (air only)
OPTIONAL EQUIPMENT	<ul style="list-style-type: none"> Additional chain for any diameter pipe Additional cutter blades Guide track and wheels to fit all pipe sizes up to 72in (1829 mm) for vertical cutting multiple pass cutting or high accuracy cutting Long cutter spindle for use with grooving cutters Corrosion resistant package

ITEM	MODEL	DRIVETYPE	PIPE OD		CODE	PART NUMBER
			mm	inch		
Trav-L-Cutter	E	Pneumatic	152.4 - 1829*	6 - 72*	902 000 010	02-000-01
Trav-L-Cutter	HE	Hydraulic	152.4 - 1829*	6 - 72*	902 000 020	02-000-02

* Standard equipment includes a basic mounting chain for OD 6in - 48in (152.4 - 1219.2 mm) only.
Chain assembly for OD 54in- 72in (1371.6- 1829 mm) sold separately.



Model E Pneumatic



Trav-L-Cutter is in use throughout the world



Heavy duty steel storage case hinges open for easy access



Trav-L-Cutter being used for submarine decommissioning

TRAV-L-CUTTER Pipe Cutter - Accessories



Slitting blade



Slitting blade



Bevel cutter



Bevel cutter



Bevel cutter and slitting saw combination

SLITTING SAW BLADES

ITEM	SAW BLADE Ø		SAW BLADE THICKNESS		FOR PIPE MATERIALS	WALL THICKNESS MAX.		CODE	PART NUMBER
	mm	inch	mm	inch		mm	inch		
Slitting Blade HSS	152.4	6	4.8	3/16	Steel	25.4	1	902 601 000	02-601-00
Slitting Blade HSS*	177.8	7	4.8	3/16	Steel	38.1	1 1/2	902 602 000	02-602-00
Slitting Blade HSS**	177.8	7	7.1	9/32	Steel	38.1	1 1/2	902 603 000	02-603-00
Slitting Blade HSS	203.2	8	4.8	3/16	Steel	54.0	2 1/8	902 604 000	02-604-00
Slitting Blade Carbide tipped	152.4	6	4.8	3/16	Ductile, cast iron	25.4	1	902 605 000	02-605-00
Slitting Blade Carbide tipped	177.8	7	4.8	3/16	Ductile, cast iron	38.1	1 1/2	902 606 000	02-606-00
Slitting Blade Carbide tipped	203.2	8	4.8	3/16	Ductile, cast iron	54.0	2 1/8	902 607 000	02-607-00
Slitting Blade Hi-Grain carbide tipped***	152.4	6	4.8	3/16	Ductile, cast iron, alloys	25.4	1	902 653 010	02-653-01
Slitting Blade Hi-Grain carbide tipped***	177.8	7	4.8	3/16	Ductile, cast iron	38.1	1 1/2	902 653 020	02-653-02

BEVEL CUTTERS

VERSION	BEVEL CUTTER Ø		BEVEL CUTTER THICKNESS		BEVELING ANGLE DEGREES °	WALL THICKNESS MAX.		CODE	PART NUMBER
	mm	inch	mm	inch		mm	inch		
Left hand (inside)	127.0	5	12.70	1/2	30	19.05	3/4	902 608 540	02-608-LH
Right hand (outside)	127.0	5	12.70	1/2	30	19.05	3/4	902 608 740	02-608-RH
Left hand (inside)	127.0	5	12.70	1/2	37.5	15.88	5/8	902 609 540	02-609-LH
Right hand (outside)	127.0	5	12.70	1/2	37.5	15.88	5/8	902 609 740	02-609-RH
Left hand (inside)	152.4	6	19.05	3/4	30	25.40	1	902 610 540	02-610-LH
Right hand (outside)	152.4	6	19.05	3/4	30	25.40	1	902 610 740	02-610-RH
Left hand (inside)	152.4	6	19.05	3/4	37.5	22.23	7/8	902 611 540	02-611-LH
Right hand (outside)	152.4	6	19.05	3/4	37.5	22.23	7/8	902 611 740	02-611-RH

SAW BLADE AND BEVEL CUTTER COMBINATION OPTIONS

Example: Cutting and beveling up to 3/4in (19.05 mm) wall thickness:

BLADE	BLADE Ø		BLADE THICKNESS		BEVEL ANGLE °	WALL THICKNESS MAX.		CODE	PART NUMBER
	mm	inch	mm	inch		mm	inch		
HSS Slitting Blade	152.4	6	4.8	3/16	–	25.4	1	902 601 000	02-601-00
Bevel cutter Left hand (inside)	127.0	5	12.70	1/2	30	19.05	3/4	902 608 540	02-608-LH
Bevel cutter Right hand (outside)	127.0	5	12.70	1/2	30	19.05	3/4	902 608 740	02-609-RH

Example: Cutting and beveling up to 1in (25.4 mm) wall thickness:

BLADE	BLADE Ø		BLADE THICKNESS		BEVEL ANGLE °	WALL THICKNESS MAX.		CODE	PART NUMBER
	mm	inch	mm	inch		mm	inch		
Slitting Blade HSS**	177.8	7	7.1	9/32	–	38.1	1 1/2	902 603 000	02-603-00
Bevel cutter Left hand (inside)	152.4	6	19.05	3/4	30	25.4	1	902 610 540	02-610-LH
Bevel cutter Right hand (outside)	152.4	6	19.05	3/4	30	25.4	1	902 610 740	02-610-RH
Spacer Kit 3/16, 11/16, 3/4	–	–	–	–	–	–	–	902 500 030	–

* For parting only.

** For use with 6in bevel cutter.

*** Hi-grain carbide is a micrograin carbide with higher strength for tough materials.

TRAV-L-CUTTER Pipe Cutter - Accessories

CLAMPING CHAINS

ITEM	PIPE OD		ACCUMULATED CHAIN LENGTH		CODE	PART NUMBER
	mm	inch	mm	inch		
Clamping chain	– per linear inch –				ON REQUEST	–
Chain assembly	152.4 - 1219.2	6 - 48	4394	173	902 450 480	02-450-48
Chain assembly	1371.6 - 1828.8	54 - 72	1702	67	902 450 720	02-450-72
Connecting pin					902 158 000	02-158-00

GUIDE TRACKS

Guide tracks require purchase of guide track wheel (Set of two).

ITEM	mm	inch	CODE	PART NUMBER
Guide track assembly	108.3	6	902 428 060	02-428-06
Guide track assembly	219.1	8	902 428 080	02-428-08
Guide track assembly	273.1	10	902 428 100	02-428-10
Guide track assembly	323.9	12	902 428 120	02-428-12
Guide track assembly	355.6	14	902 428 140	02-428-14
Guide track assembly	406.4	16	902 428 160	02-428-16
Guide track assembly	457.2	18	902 428 180	02-428-18
Guide track assembly	508.0	20	902 428 200	02-428-20
Guide track assembly	558.8	22	902 428 220	02-428-22
Guide track assembly	609.6	24	902 428 240	02-428-24
Guide track assembly	660.4	26	902 428 260	02-428-26
Guide track assembly	711.2	28	902 428 280	02-428-28
Guide track assembly	762.0	30	902 428 300	02-428-30
Guide track assembly	812.8	32	902 428 320	02-428-32
Guide track assembly	863.6	34	902 428 340	02-428-34
Guide track assembly	914.4	36	902 428 360	02-428-36
Guide track assembly	965.2	38	902 428 380	02-428-38
Guide track assembly	1016.0	40	902 428 400	02-428-40
Guide track assembly	1066.8	42	902 428 420	02-428-42
Guide track assembly	1219.2	48	902 428 480	02-428-48
Guide track assembly	1371.6	54	902 428 540	02-428-54
Guide track assembly	1524.0	60	902 428 600	02-428-60
Set of 2 guide track wheels	–	–	902 429 000	02-429-00
Guide track bolt (2 required per guide track)	–	–	902 209 000	02-209-00



Chain assembly & pins



Guide track

MISCELLANEOUS ACCESSORIES AND SPARE PARTS

ITEM	CODE	PART NUMBER
Hydraulic hose set 13.9 m (45 ft 5/8in). Includes 4 sets M/F quick disconnects. For use with Wachs Model HE Trav-L-Cutter.	902 408 000	02-408-00
Hydraulic female disconnect.	909 025 000	09-025-00
Hydraulic male disconnect.	909 026 000	09-026-00
Dust cover, plug-cap.	909 027 000	09-027-00
Set of 2 guide track wheels.	902 429 000	02-429-00
Long cutter spindle*	902 073 020	02-073-02
Spare parts kit.**	902 500 010	02-500-01
Spare parts kit with air motor (includes both air motors).**	902 500 020	02-500-02
Spare parts kit for 902 000 040 (atmospheric).**	902 500 040	02-500-04
Chain connecting pin.	902 158 000	02-158-00
Steel wedges.	902 175 000	02-175-00
Trav-L-Cutter manual. Electronic version via e-mail available free upon request.	902 626 010	02-MAN-01

* If purchased in place of standard spindle: add \$125.00 to machine price.

** Kit BOM's subject to change based on current production configuration.

TRAV-L-CUTTER Pipe Cutter - Accessories



Diesel Hydraulic Power Unit



Cutting lubrication KSS-TOP

HYDRAULIC POWER UNITS

For available Hydraulic Power Unit options, see page 72.

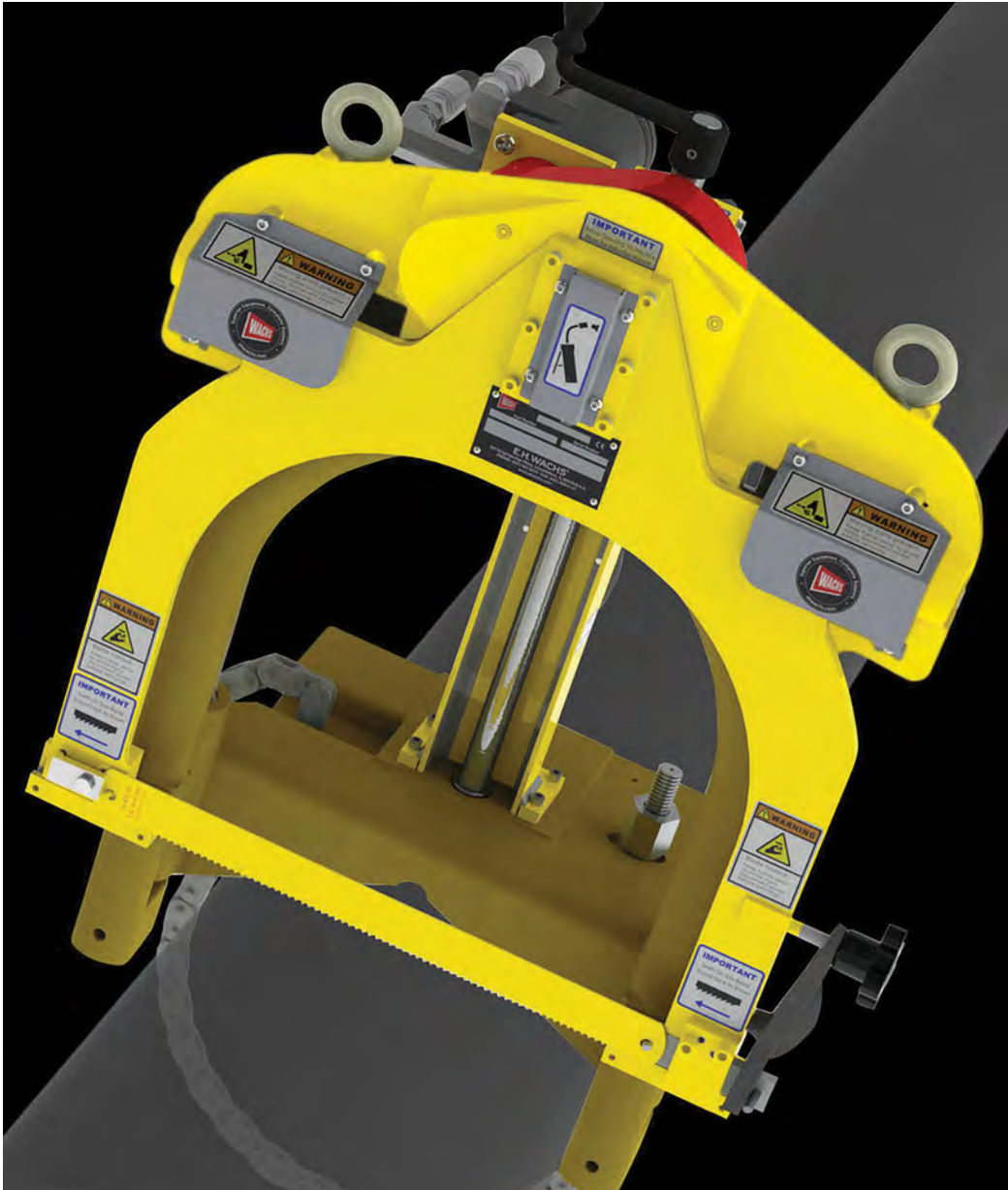
CUTTING LUBRICATION KSS-TOP

The water soluble, fully synthetic cooling fluid extends the tool life of the tool bits.

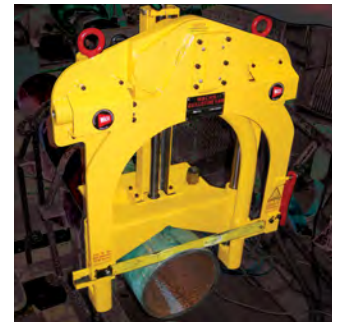
Contains no hazardous substances (no labeling requirements according to GefStoffV1) and is well corrosion resistant. Developed conforming to drinking water requirements according to DVGW work sheet W521 (thread cutting compounds for drinking water installations) and basically complies with these specifications. Is biologically degradable (OECD 302 B).

Item	Version	Code	kg
Cutting lubrication KSS-TOP	Pump sprayer with 500 ml	790 060 226	0.630
Cutting lubrication KSS-TOP refill canister	Canister with 10 l	790 060 227	11.000

GUILLOTINE Pipe Saw



Famous "Wachs Saw" is used around the world



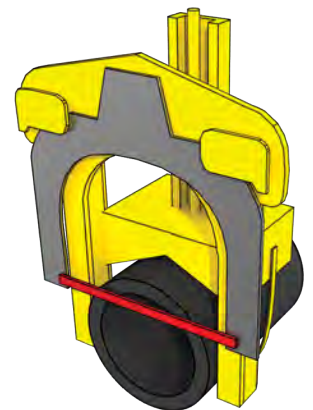
Unique elliptical stroke for extended blade life



Goliath Saw shown on large diameter conductor

FAST SETUP AND CUTTING, BOTH HORIZONTALLY OR VERTICALLY

E.H. Wachs family of portable Guillotine® pipe saws are designed to cold cut 2in - 32in (DN 50 - 800) pipe, as well as solids such as bar stock, rails and beams. Their compact design and easy setup make it the ideal saw for contractors, pipeline operations, refineries, petrochemical and processing plants and anywhere a fast, safe cut is needed. In use virtually everywhere, they're strong yet light, simple to mount, simple to operate and simply bulletproof. It's no wonder that when pipe saws are first mentioned, the "Wachs Saw" is mentioned first.



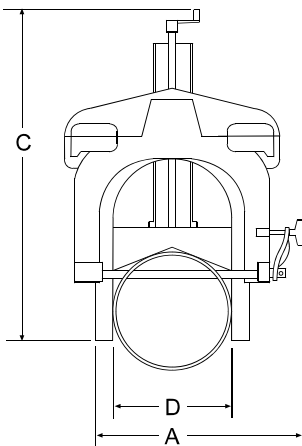
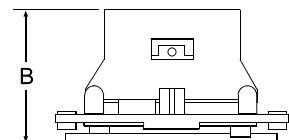
GUILLOTINE Pipe Saw - Overview



Guillotine Super C



Long blade life



SUPER C, MODEL D, SUPER D, GOLIATH

- Rugged yet compact design requires minimal clearances
- Four models cut from 2in - 32in (DN 50 - 800)
- Fast setup and cutting, both horizontally or vertically
- Pneumatic, hydraulic and electric drive options
- Optional autofeed and autoclamping on select models

EASY SETUP, VERTICAL OR HORIZONTAL

Installation time is approximately 5 minutes! A chain pipe vise clamps the Guillotine Saw to the pipe. The machined cast iron "V"-saddle base assures square cuts at right angles. It can be mounted on horizontal as well as vertical piping, in any position.

QUICK COLD CUTS, MINIMAL CLEARANCE

The Guillotine Saws require minimal clearance (the model Super C needs as little as 1.5in (38.1 mm) on one side of the pipe). All models feature finger tip feed control. The pipe is cold cut in a matter of minutes. A 6in (152.4 mm) standard wall steel pipe is cut in only 6 minutes. A 16in (406.4 mm) diameter 0.5in (12.7 mm) wall steel pipe is cut in about 20 minutes.

PORTABLE, RUGGED DESIGN

The Guillotine Saws combine compact size and light weight with simple, rugged construction for ease of operation and low maintenance.

LONG BLADE LIFE

The high-speed steel blades are easily changed. The unique Guillotine cutting action lifts the blade from the cut on the return stroke, extending blade life.

SPECIFICATIONS	UNITS	SUPER C	MODEL D	SUPER D	GOLIATH
MACHINE CAPACITY	mm	DN 50 - 300	DN 150 - 450	DN 250 - 600	DN 400 - 800
	inch	2 - 12	6 - 18	10 - 24	16 - 32
SOLIDS THROUGH	mm	324	473	622	838
	inch	12.75	18.625	24.5	33
CLEARANCE OVERALL WIDTH (ON ONE SIDE MIN.)	mm	711 (63.5)	813 (76)	991 (76)	1.676
	inch	28 (2.5)	32 (3)	39 (3)	66
WEIGHT (OPERATING / SHIPPING)	kg	52 / 82	154 / 188	234 / 281	816.5
	lbs	115 / 180	340 / 415	515 / 620	1800
DIMENSION A	mm	596,9	794	972	1676.4
	inch	23.5	31.25	38.25	66
DIMENSION B	mm	323,85	368	368	635
	inch	12.75	14.5	14.5	25
DIMENSION C	mm	800	940	1118	1943
	inch	31.5	37	44	76.5
DIMENSION D	mm	337	476	629	838
	inch	13.25	18.75	24.75	33
STROKE	mm	51	51	102	
	inch	2	2	4	
SHIPPING DIMENSIONS (ESTIMATED)	cm	66 x 74 x 56	160 x 119 x 74		
	inch	26 x 29 x 22	63 x 47 x 29		

GUILLOTINE Pipe Saw - Specifications

SUPER C, MODEL D, SUPER D, GOLIATH

SPECIFICATIONS		
DRIVE		Air, electric or hydraulic (Goliath only with hydraulic drive)
AIR MOTOR DRIVE	[m³/min]	1.4 at 5.0 bar
	[ft³/min]	50 at 85 psi
ELECTRIC DRIVE		15 A, 110 or 220 Volt single phase
HYDRAULIC DRIVE	[l/min]	38 at 106 bar
	[gal/min]	10 at 1500 psi
INSTALLATION TIME		Approx. 5 minutes
CONTROLS		Single crank, manual feed. Motor on-off.
LUBRICATION		Grease fittings at all wear points
FINISH		Paint
STANDARD EQUIPMENT		<ul style="list-style-type: none"> • Heavy drive (air, electric or hydraulic) • 1 Standard saw blade • Wrench 1 1/4in (31.75 mm) • Air lubricator and filter (Air Model) • Steel storage case (Model C and D only) • Lifting eyes (Model D and Super D) • Mounting chains • Manual
OPTIONAL EQUIPMENT		<ul style="list-style-type: none"> • Model D transporter truck • Blades: HSS and carbide blades (depending on the machine version) • Lifting frame • Hydraulic bulkhead for remote operation • Autoclamp mechanism • Autofeed

ITEM	VERSION	PIPE OD		CODE	PART NUMBER
		mm	inch		
GUILLOTINE SUPER C	Electric, 110 V	DN 50 - 300	2 - 12	924 000 010	24-000-01
GUILLOTINE SUPER C	Pneumatic	DN 50 - 300	2 - 12	924 000 020	24-000-02
GUILLOTINE SUPER C	Hydraulic	DN 50 - 300	2 - 12	924 000 030	24-000-03
GUILLOTINE SUPER C AUTOCLAMP	Hydraulic	DN 50 - 300	2 - 12	ON REQUEST	P06-150-502
GUILLOTINE SUPER C AUTOCLAMP & AUTOFEED	Hydraulic	DN 50 - 300	2 - 12	ON REQUEST	P06-150-500
GUILLOTINE MODEL D	Electric, 110 V	DN 150 - 457	6 - 18	904 000 010	04-000-01
GUILLOTINE MODEL D	Pneumatic	DN 150 - 457	6 - 18	904 000 020	04-000-02
GUILLOTINE MODEL D	Hydraulic	DN 150 - 457	6 - 18	904 000 030	04-000-03
GUILLOTINE SUPER D	Pneumatic	DN 250 - 610	10 - 24	925 000 010	25-000-01
GUILLOTINE SUPER D	Hydraulic	DN 250 - 610	10 - 24	925 000 030	25-000-03
GUILLOTINE SUPER D AUTOCLAMP	Hydraulic	DN 250 - 610	10 - 24	ON REQUEST	P06-150-512
GUILLOTINE SUPER D AUTOCLAMP & AUTOFEED	Hydraulic	DN 250 - 610	10 - 24	ON REQUEST	P06-150-510
GUILLOTINE GOLIATH	Hydraulic	DN 400 - 800	16 - 32	ON REQUEST	P06-150-523
GUILLOTINE GOLIATH AUTOCLAMP	Hydraulic	DN 400 - 800	16 - 32	ON REQUEST	P06-150-522
GUILLOTINE GOLIATH AUTOCLAMP & AUTOFEED	Hydraulic	DN 400 - 800	16 - 32	ON REQUEST	P06-150-520



Guillotine Super D



Guillotine cutting pipe



Guillotine Goliath cutting power turbine shaft

GUILLOTINE Pipe Saw - Accessories



Cart Mounted, Gasoline Fueled
Hydraulic Power Unit



Cutting lubrication KSS-TOP

MISCELLANEOUS ACCESSORIES AND SPARE PARTS

ITEM	TO UTILIZE WITH GUILLOTINE				CODE	PART NUMBER
	MODEL C	SUPER C	MODEL D	SUPER D		
Air motor conversion (replaces all obsolete motors)	x				903 414 000	03-414-00
Lubricator retrofit kit	x	x	x	x	903 500 100	03-500-10
Spare parts kit	x	x			903 500 010	03-500-01
Spare parts kit			x		904 500 010	04-500-01
Spare parts kit				x	925 500 010	25-500-01
Manual. Electronic version via e-mail available free upon request.	x	x	x	x	903 626 010	03-MAN-01








HYDRAULIC POWER UNITS

For available Hydraulic Power Unit options, see page 72.

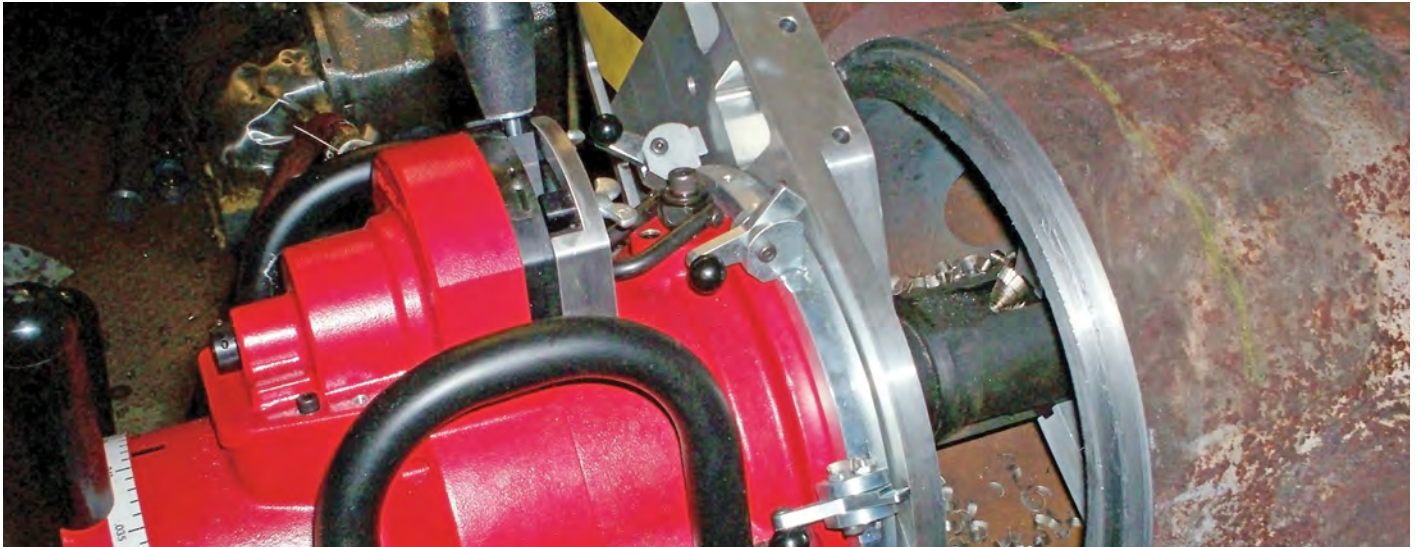
CUTTING LUBRICATION

Cutting lubrication "KSS-TOP", see page 48.

SAW BLADES

DESCRIPTION		APPLICATION	CODE	PART NUMBER
	Model C HSS standard blade	For general use	903 405 000	03-405-00
	Model Super C standard blade - general use	Carbon steel pipe, stainless steel and other high alloy materials	924 405 000	24-405-00
	Model Super C carbide blade	Cast, ductile and concreted lined pipe	924 405 010	24-405-01
	Model D HSS standard blade	Carbon steel pipe, stainless steel and other high alloy materials	904 402 000	04-402-00
	Model D carbide blade	Cast, ductile and concreted lined pipe	904 405 010	04-405-01
	Model Super D heavy duty blade	Carbon steel pipe, stainless steel and other high alloy materials	925 402 000	25-402-00
	Goliath heavy duty blade	For general use	906 150 701	P06-150-701

I.D. Mounted Machine Tools



E.H. Wachs machine tools are broadly divided into O.D. mounted machines and I.D. mounted machines. I.D. mounted machine tools fall into the end prep category, meaning they machine the end of a pre-cut pipe or workpiece. Wachs I.D. mounted machines use a mandrel (or in specific cases a chuck head) that expands into the pipe inside diameter to hold fast. An inherent advantage of mandrels is they self center when tightened, assuring a high precision end prep.

I.D. mounting is also useful for special applications such as prepping elbows, with mandrels and fittings offered specifically for that purpose. E.H. Wachs also offers I.D. beveler machines in a variety of drives specially designed for boiler tube and heat exchanger maintenance and construction applications, widely used in power generation. The EICC for oil and gas well completion utilizes an I.D. mounted chucking head to cut casings down to a 60in depth (1524mm) below the wellhead.

E.H. Wachs I.D. mounted products include our field proven SDB Small Diameter Beveler series and the related FF Flange Facing series. These machines offer incredible flexibility by utilizing common components where users can order and configure the machine as an SDB beveler, an FF flange facer or as both, so one machine can take the place of two. Wachs best selling EP 424 is the ideal machine for heavy wall applications. It's available in two models, the basic Form Tool model and the more advanced Single Point model that features the revolutionary SpeedPrep autofeed system.

SpeedPrep allows the user select and change the bevel angle on the fly, the fastest and most precise way to create bevels, compound bevels and J Preps on the toughest steel and high alloy materials. It's the perfect machine for newer or less experienced operators to deliver professional results right from day one. And like the convertible SDB series the EP 424 can be used to face large diameter flanges up to 24in (610mm) O.D. Learn more about E.H. Wachs I.D. machines starting, our O.D. mounted machines begin on page 5.













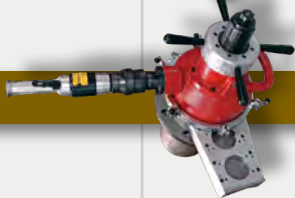


E.H. Wachs EP 424 End Prep with SpeedPrep performs pipe end preps and flange facing



E.H. Wachs SDB End Prep performs pipe end preps and can be converted for flange facing

I.D. Mounted Machine Tools

	1/2in 13mm	4in 102mm	8in 203mm	12in 305mm	16in 406mm	24in 610mm
EP 424 END PREP	EP 424 FORM TOOLING 					
	EP 424 SINGLE POINTING 					
SDB SMALL DIAMETER BEVELER	SDB 103 					
	SDB 206 					
	SDB 412 					
FF FLANGE FACER	FF 206 					
	FF 313 					
	FF 424 					

EP 424 Pipe End Prep Machines



EP 424 application



Auto feed angle generator by "SpeedPrep"



Hydraulic (shown), Electric & Pneumatic drive options

MACHINES FROM 4in - 24in (DN 100 - 600) OD AVAILABLE WITH PATENTED AUTOFEED MECHANISM

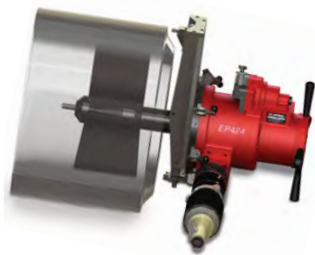
The Wachs EP 424 with the patented new SpeedPrep feed system is a precision ID mount end prep machine tool designed to bevel, compound bevel, J prep, face and counterbore pipe, fittings and valves. Able to machine any bevel or compound bevel without templates, incline tool slides or work stoppage. The EP 424 is powerful enough to form tool from 4in - 14in (DN 100 - 350) and single point from 8in - 24in (DN 200 - 600) up to a 6.5in (165 mm) wall thickness.



EP 424 Pipe End Prep Machines



EP 424 Flange Facing with single point machine slide



Cross section of EP 424 mounted for single pointing



EP 424 End Prep with Form tooling slide attached



Faces flanges up to 24in (609.6mm)

- Machines perfect preps from OD 4in - 24in (DN 100 - 600)
- Safe cold cutting process, eliminates heat affected zone
- Lathe machining process delivers precise compound bevels and consistent lands
- SpeedPrep design feeds automatically in the radial and axial planes
- Hydraulic, Electric or Pneumatic drive options
- EP 424 eliminates the need for accessory templates or external tool slides
- Features fast setup and prep times with quick deploy mandrel legs
- Hardened steel components, large cross section, larger gear sets
- Lightweight yet rigid aluminum housing and mainshaft to enhance portability
- Low friction bearing system provides maximum stability and eliminates chatter

EP 424 DESIGN CAPABILITIES

- Form tool from pipe OD 4in - 14in (DN 100 - 350)
- Single point machining from OD 4in - 24in (DN 100 - 600)
- Hardened alloy steel components, larger gear sets for high work loads
- Full roller bearing construction for durability and stability
- Fully enclosed bearings and drive gears for safety and durability
- Corrosion resistant finishes on all components to withstand harsh environments
- Mounts to ID of pipe with easy to use self centering mandrel system
- Fully modular construction for one man set-up and operation
- All new heavy duty design with patent pending SpeedPrep feed system

The EP 424 is an all new design featuring Wachs patent pending SpeedPrep feed system. Prior to the EP 424, most end prep machines required a mechanical template or incline tool slide to reproduce the specific and complex preps called for by today's processes.

With Wachs SpeedPrep system, it's now possible to dial in the exact prep needed for your application. Select the bevel angle and the land that works best for your application, without work stoppages or additional components. More versatile and powerful to use than any other machine of its kind, the Wachs EP 424 sets the standard in user friendly large diameter end prep machines.

SPECIFICATIONS	UNITS	EP 424
SYSTEM FUNCTION		ID mount end prep machine tool designed to bevel, compound bevel, J-prep, face and counterbore pipe, fittings and valves
MACHINE CAPACITY OD (VARIES BY TOOLING)	mm	DN 100 - 600
	inch	4 - 24
DRIVE OPTIONS		Hydraulic, pneumatic or electric
AIR REQUIREMENTS	m ³ /min	2.7 at 6.2 bar
	ft ³ /min	95 at 90 psi
HYDRAULIC REQUIREMENTS	l/min	30 at 103 bar
	gal/min	8 at 1500 psi
FEED METHOD		SpeedPrep feed system with dial control or fully manual
FEED RATE		Variable feed rate, user adjustable
FEED STROKE (AXIAL)	mm	71.1
	inch	2.8
CONSTRUCTION		Lightweight aluminum housing, oversize hardened alloy steel fully enclosed gear sets, high capacity bearings, rigid mandrel legs, captivated hardware
FINISH		Multistage bright red enamel finish plus black oxide and clear coated components
MACHINE ROTATING SPEED	rpm	0 - 14 (variable)

EP 424 Pipe End Prep Machines

SPECIFICATIONS	EP 424
TOOLING	Accepts standard Wachs single point beveling and form tools, high speed steel or carbide tooling
TOOL SLOTS	Form tooling or single point tooling
PACKAGING	Heavy duty storage case
LENGTH (WITHOUT / WITH MANDREL)	314mm / 680mm 12.35in / 26.75in
WEIGHT	Full modular construction with each module under 31.75 kg (70 lbs), total weight with storage case 71.67 kg (158 lbs)
STANDARD EQUIPMENT	<ul style="list-style-type: none"> • Form tooling • Heavy drive (pneumatic or hydraulic) • Heavy duty storage case • Standard mandrel (depending on machine version) • Extension leg kit (depending on machine version) • Self squaring mounting system (depending on machine version) • Operating hand tools • Operation manual
OPTIONAL EQUIPMENT	<ul style="list-style-type: none"> • Flange facing modules for end prep or form tooling applications • Air Control Module "ACM" for pneumatic drive • Interchangeable tooling mounts • Genuine Wachs tooling

OVERVIEW OF EP 424 EQUIPMENT INCLUDED

DRIVE TYPE			FORM TOOLING, ROTATING HEAD ASSEMBLY OD 4 - 16	SINGLE POINT SLIDE ID - OD 4.24 - 24	STANDARD CLAMPING UNIVERSAL		INDEPENDENT CLAMPING ID 8.5 - 22.6	SPEED PREP	EPD ADAPTER (EPD TO ADD SEPARATELY)	CODE	PART NUMBER
PNEUMATIC	HYDRAULIC	ELECTRIC			ID 3.27 - 15.96	ID 14.87 - 23.64					
X			X		X					981 000 010	81-000-01
	X		X		X					981 000 020	81-000-02
X			X	X	X	X	X	X		981 000 030	81-000-07
	X		X	X	X	X	X	X		981 000 040	81-000-03
X			X	X	X	X		X		981 000 050	81-000-04
	X		X	X	X	X		X		981 000 060	81-000-08
			X		X				X	981 000 070	81-000-05
			X	X	X	X	X	X	X	981 000 080	81-000-06
			X	X	X	X		X	X	981 000 090	81-000-09

ITEM	VERSION	PIPE OD		CODE	PART NUMBER
		mm	inch		
EP 424 form tooling	Pneumatic	DN 100 - 400	4 - 16	981 000 010	81-000-01
EP 424 form tooling	Hydraulic	DN 100 - 400	4 - 16	981 000 020	81-000-02
EP 424 form tooling***	Electric***	DN 100 - 400	4 - 16	981 000 070	81-000-07
EP 424 single point tooling*	Pneumatic	DN 100 - 600	4 - 24	981 000 030	81-000-03
EP 424 single point tooling*	Hydraulic	DN 100 - 600	4 - 24	981 000 040	81-000-04
EP 424 single point tooling	Electric***	DN 100 - 600	4 - 24	981 000 080	81-000-08
EP 424 single point tooling**	Pneumatic	DN 100 - 600	4 - 24	981 000 050	81-000-05
EP 424 single point tooling**	Hydraulic	DN 100 - 600	4 - 24	981 000 060	81-000-06
EP 424 single point tooling**	Electric***	DN 100 - 600	4 - 24	981 000 090	81-000-09

* Single point tooling. Includes standard mandrel and self squaring mounting system.

** Single point tooling. Includes only standard mandrel.

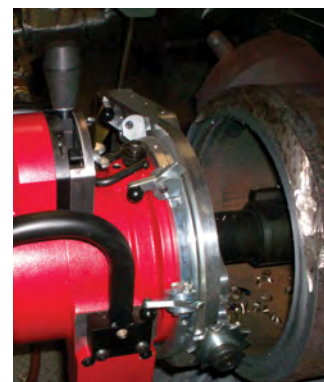
*** Includes only an adapter for the Electric Power Drive EPD. Add the EPD separately (see page 74).



EP 424 Beveling with form tool



EP 424 single pointing heavy wall pipe

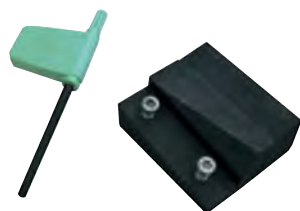


Self-centering mandrel



Highly versatile and powerful

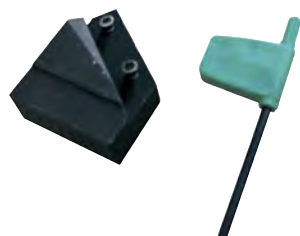
EP 424 Pipe End Prep Machines - Accessories



Facing tool insert holder
(high range)



Premium grade HSS insert
(2 sided)



Bevel tool insert holder kit 30°



Form Tool Insert Holder

EP 424 SINGLE POINT SPEEDPREP UPGRADE

Converts form tool model to single point model.

STANDARD EQUIPMENT

- Single point radial tool slide for ID 4.25in (108 mm) to OD 24in (609.6 mm) (165 mm (6.5in) slide travel)
- "SpeedPrep" auto axial feed gear box for bevel generation up to 45°
- Chuck leg extensions for ID range 14.87in - 23.64in (377.7 - 600 mm)
- Self squaring mounting system and extensions for ID range 7.6in-22.6in (193-574 mm)
- Dial indicator system
- Operating hand tools
- Storage case
- Manual

FORM TOOL EP 424 FACING TOOLING

ITEM	CODE	PART NUMBER
Facing tool insert holders, axial		
Facing tool insert holder (low range) includes: <ul style="list-style-type: none">• 1 holder (956 198 010)• 2 insert screws (956 190 000)• 1 wrench (956 191 000)	956 708 010	56-708-01
Facing tool insert holder (high range)i ncludes: <ul style="list-style-type: none">• 1 holder (956 198 020)• 2 insert screws (956 190 000)• 1 wrench (956 191 000)	956 708 020	56-708-02
Inserts for facing and beveling		
Premium grade HSS insert (2 sided). For facing and beveling. For use with all Wachs SDB 206, 412 and EP 424 insert holders.	956 711 010	56-711-01
Carbide 2 sided insert. For facing and beveling. For use with all Wachs SDB 206 and 412 insert holders.	956 712 010	56-712-01
Facing insert holder kit for axial facing and beveling 37.5°		
Insert holder kit for axial facing and beveling 37.5° includes: <ul style="list-style-type: none">• 1 low range facing insert holder (956 708 010)• 1 high range facing insert holder (956 708 020)• 1 bevel insert holder 37.5° (956 709 030) For Wachs models SDB, SDB 412 and EP 424.	956 710 010	56-710-01
Screw and wrench		
Screw, insert	956 190 000	56-190-00
Insert screw torx wrench	956 191 000	56-191-00
Customized tools ground to customer specification (specific Code to be assigned upon receipt of order)		
Custom HSS facing tool bit (form tool)	ON REQUEST	56-SPT-02
Custom form tool or single point insert holder	ON REQUEST	56-SPT-10

FORM TOOL EP 424 BEVELING TOOLING

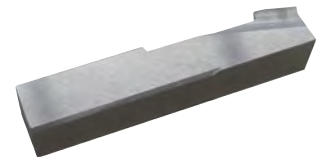
ITEM	CODE	PART NUMBER
Bevel tool insert holder kits		
Bevel tool insert holder kit 30° includes:		
1 holder (956 199 02)	956 709 020	56-709-02
2 insert screws (956 190 000)		
1 wrench (956 191 000)		
Bevel tool insert holder kit 37.5° includes:		
1 holder (956 199 030)	956 709 030	56-709-03
2 insert screws (956 190 000)		
1 wrench (956 191 000)		
"J-Prep" bevel tool insert holder kit 20° (low range) includes:		
1 holder (956 199 010)	956 709 010	56-709-01
2 insert screws (956 190 000)		
1 wrench (956 191 000)		
Use with 956 708 010 facing insert holder for 0.040in (1 mm) land extension.		

EP 424 Pipe End Prep Machines - Tooling

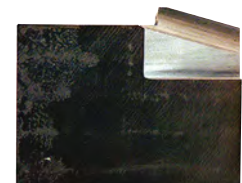
ITEM	CODE	PART NUMBER
"J-Prep" bevel tool insert holder kit 20° (high range) includes: 1 holder (956 199 050) 2 insert screws (956 190 000) 1 wrench (956 191 00) Use with 956 708 010 facing insert holder for 0.040in (1 mm) land extension.	956 709 050	56-709-05
Insert holder kit includes: 1 low range facing insert holder (956 708 010) 1 high range facing insert holder (956 708 020) 1 bevel insert holder 37.5° (956 709 030) For Wachs models SDB 206, SDB 412 and EP 424.	956 710 010	56-710-01
Compound bevel form tool 10° x 37.5°	956 707 000	56-707-00
Inserts for facing and beveling		
Premium grade HSS insert (2 sided). For use with all Wachs SDB 206, 412 and EP 424 insert holders.	956 711 010	56-711-01
Carbide 2 sided insert. For use with all Wachs SDB 206 and 412 insert holders.	956 712 010	56-712-01
Premium grade HSS 2 sided 3/32 radius "J" bevel insert. For use with 956 709 010 and 956 709 050 insert holders.	956 711 020	56-711-02
Carbide 2 sided 3/32 radius "J" bevel insert. For use with 956 709 010 and 956 709 050 insert holders.	956 712 020	56-712-02
Screw and wrench		
Screw, insert	956 190 000	56-190-00
Insert screw torx wrench	956 191 000	56-191-00
Customized tools ground to customer specification (specific Code to be assigned upon receipt of order)		
Custom HSS bevel tool bit single angle (form tool).	ON REQUEST	56-SPT-01
Custom HSS bevel tool bit compound angle (form tool).	ON REQUEST	56-SPT-03
Custom HSS bevel tool bit single angle "J" (form tool).	ON REQUEST	56-SPT-04
Custom HSS bevel tool bit compound angle "J" (form tool).	ON REQUEST	56-SPT-05



Premium grade HSS insert (2 sided)



Counterbore tool taper 4:1



Counterbore tool taper 4:1



Holder kit counterbore

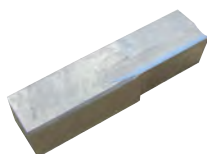
FORM TOOL EP 424 COUNTERBORE AND ID TOOLING

ITEM	CODE	PART NUMBER
ID deburring tools		
ID deburring tool 10°. 0.150in (3.81 mm) required between mandrel and ID.	956 702 010	56-702-01
ID deburring tool 10°. 0.449in (11.4 mm) required between mandrel and ID.	956 702 020	56-702-02
ID deburring tool 10°. 0.762in (19.4 mm) required between mandrel and ID.	956 702 030	56-702-03
Counterbore tools		
Counterbore tool taper 4:1. 0.315in (8 mm) required between mandrel and ID.	956 705 010	56-705-01
Counterbore tool taper 4:1. 0.875in (22.2 mm) required between mandrel and ID.	956 705 020	56-705-02
Counterbore tool taper 4:1. 1.375in (35 mm) required between mandrel and ID.	956 705 030	56-705-03
Counterbore tool taper 4:1; 3/8in x 3/8in (9.5 x 9.5 mm). Use with single point beveling tool holder.	956 713 000	56-713-00
Counterbore tool taper 4:1; SF204/3-SF1420/3	960 700 040	60-700-04
Holder kit counterbore	956 715 000	56-715-00
Customized tools ground to customer specification (specific Code to be assigned upon receipt of order)		
Custom HSS tool bit ID deburring	ON REQUEST	56-SPT-06
Custom HSS tool bit counterboring	ON REQUEST	56-SPT-07

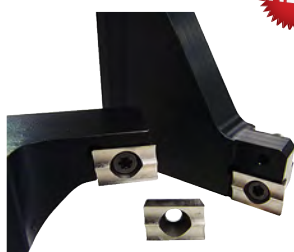
EP 424 End Prep - Tooling



Legacy single point beveling tool holder



Legacy standard HSS tool bit
9.5 x 9.5 mm



NEW DuoEdge insert tooling:
holders and bits



DuoEdge inserts, 10 pack



DuoEdge reusable holder

LEGACY EP 424 SINGLE POINT TOOLING

ITEM	CODE	PART NUMBER
Tool holders		
Single point beveling tool holder, low range. For OD 4.25in-23.62in (108 - 600 mm) for EP 424. For EP 424, FF313 and FF424.	956 424 000	56-424-00
Single point beveling tool holder, high range. For OD 7.25in-24in (184 - 609.6 mm) for EP 424. For EP 424, FF313 and FF424.	956 424 010	56-424-01
Tool bit		
Standard HSS tool bit 3/8in x 3/8in (9.5 x 9.5 mm). For single point facing, beveling and flange facing. For use with EP 424, LCSF/3, FF, SWR and SDSF machines.	952 701 010	52-701-01

NEW DUOEDGE INSERT TOOLING

E.H. Wachs DuoEdge Insert Tooling is a system of portable machine tool holders and inserts designed to replace larger, more expensive traditional single edge tooling.

It offers considerable cost savings over traditional tooling without sacrificing the longevity of the cutting edge or the quality of the finished prep.

- Two cutting edges instead of one, for minimal work interruption
- Each cutting edge costs on average one third the cost of a traditional bit
- No need to sharpen tooling, saving time, labor and shipping
- Small size of inserts makes them easy to store or carry in your pocket
- Holders are reusable, inserts are interchangeable between holders
- End prep holder is reversible to a high and low range position
- Precision ground, super smooth surface finish
- Reduced friction for longer life
- Chip curl edge designed to clear swarf
- Eliminates expensive and time consuming conventional tool sharpening
- Unlike conventional tooling DuoEdge has two cutting edges per insert
- Less expensive per cutting edge, on average less than 1/3 the cost of conventional tooling
- Optimal mix of sharpness and durability
- Supplied with 0.5in tool radius for stronger edges and a better finish
- Superior to competitors off the shelf repurposed CNC tooling
- Three insert materials offered, HSS, premium coated HSS and carbide steel

ITEM	APPLICATION	MATERIAL	CODE	PART NUMBER
DuoEdge Insert Single Pack	Carbon steel	HSS	981 701 010	81-701-01
DuoEdge Insert 10-Pack	Carbon steel	HSS	981 701 100	81-701-10
DuoEdge Premium Single Pack	Stainless steel	HSS Premium	981 701 009	81-701-00P
DuoEdge Premium 10-Pack	Stainless steel	HSS Premium	981 701 109	81-701-10P
DuoEdge Insert Single Pack	High-temp alloys	Carbide	981 703 010	81-703-01
DuoEdge Insert 10-Pack	High-temp alloys	Carbide	981 703 100	81-703-10
DuoEdge J-Prep Insert Single Pack	R 2.4 mm/.094in J-Prep	HSS	981 704 010	81-704-01
DuoEdge J-Prep Insert Single Pack	R 3.2 mm/.125in J-Prep	HSS	981 705 010	81-705-01
DuoEdge J-Prep Insert Single Pack	R 4.8 mm/.188in J-Prep	HSS	981 706 010	81-706-01
DuoEdge J-Prep Insert Single Pack	R 6 mm/.236in J-Prep	HSS	981 707 010	81-707-01
Holder Single Pack	single point	Heat treated steel	960 718 000	60-718-00
EP424 Holder Single Pack	End prep single point	Heat treated steel	981 702 000	81-702-00

SDB Small Diameter Beveler



Box header beveling
with SDB



SDB pipe end preparation



SDB end prepping
pressure vessel

FAST, EASY SETUP - SELF CENTERING DESIGN

E.H. Wachs® SDB line of small diameter bevelers have been engineered for fast, precise onsite facing, beveling, compound beveling and counterboring of light and heavy wall pipe, tube or casing. Proven workhorses, they set up quickly with a self centering mandrel and chuck assembly mounting to the pipe I.D. Their highly productive design means one person can setup, operate and create a perfect weld prep in minutes.



SDB Small Diameter Beveler - Overview



SDB 412



SDB 103



SDB 206

PIPE END PREPARATION MACHINES

- Compact, rugged designs for one man operation
- Self centering ID mandrel assures perfect end preps
- Face, bevel, counterbore
- Convertible to FF series with optional flange facing kit

SDB 103 handheld beveling machine delivers maximum power and performance for fast, accurate weld preps on pipe and tube from ID 0.875in (22.2 mm) to OD 4.5in (114.3 mm) and flanges ID 2in (50.8 mm) to OD 6in (152.4 mm). Face, bevel and counterbore simultaneously on carbon, stainless and high alloy steels. Extremely versatile, the SDB 103 allows you to machine boiler tubes, heavy wall pipe, thick wall tubing, prep elbows and (with optional FF kit) face flanges.

SDB 206 makes fast work of end preps on pipe and tube from ID 1.91in (48.5 mm) to OD 6.625in (168.3 mm) and flanges from ID 3in (76.2 mm) to OD 13in (330.2 mm) The SDB 206 is a compact, lightweight design which requires only 2.25in (57 mm) of radial clearance – making it the ideal tool for use in tight places. No other machine of this type can perform as many different jobs: face, bevel, counterbore (simultaneously if desired), compound bevel and (with optional FF kit) face flanges.

The **SDB 412** is a portable pipe end prep machine designed to face, bevel, counterbore (simultaneously) and compound bevel ID 3.80in (96.5 mm) to OD 12.75in (323.9 mm) pipe, up to 1.125in (29 mm) wall thickness and (with optional FF kit) face flanges ID 4in (101.6 mm) to OD 24in (609.6 mm). The heavy duty yet compact design of the SDB 412 requires minimal operating clearances and ease of handling, setup and operation.

SPECIFICATIONS	SDB 103	SDB 206	SDB 412
MACHINE CAPACITY	22.2 - 114.0 mm	48.5 - 168.0 mm	96.5 - 323.9 mm
	0.875in - 4.500in	1.910in - 6.625in	3.800in - 12.750in
STANDARD EQUIPMENT	Heavy duty drive (air or electric) Standard mandrel ID 29.5 - 106 mm (1.16in - 4.18in) 7 sets of leg extensions Operating hand tools Watertight storage case Manual	Heavy duty drive (air, electric or hydraulic) Standard mandrel ID 57.7 - 167 mm (2.27in - 6.58in) 10 sets of leg extensions Operating hand tools Watertight storage case Manual	Heavy duty drive (air, electric or hydraulic) Standard mandrel ID 96.5 - 305 mm (3.80in - 12.02in) 8 sets of leg extensions Operating hand tools Watertight storage case Manual
SHIPPING WEIGHT (EST.)	18 kg	52 kg	140 kg
	40 lbs	115 lbs	308 lbs
SHIPPING DIMENSIONS (EST., WITHOUT ACCESSORIES)	635 x 558.8 x 228.6 mm	305 x 813 x 533 mm	635 x 1.194 x 457 mm
	25in x 22in x 9in	12in x 32in x 21in	25in x 47in x 18in

SDB Small Diameter Beveler - Specifications

ITEM	DRIVETYPE	PIPE ID TO OD		CODE	PART NUMBER
		mm	inch		
SDB 103/3	Pneumatic	22.2 - 114.0	0.875 - 4.500	916 000 010	16-000-01
SDB 103/3	Electric 110 V, 50 Hz	22.2 - 114.0	0.875 - 4.500	916 000 020	16-000-02
SDB 103/3	Electric 220 V, 50 Hz	22.2 - 114.0	0.875 - 4.500	916 000 030	16-000-03
SDB 206/2	Pneumatic	48.5 - 168.0	1.910 - 6.625	956 000 010	56-000-01
SDB 206/2	Electric 110 V, 50 Hz	48.5 - 168.0	1.910 - 6.625	956 000 020	56-000-02
SDB 206/2	Electric 220 V, 50 Hz	48.5 - 168.0	1.910 - 6.625	956 000 040	56-000-04
SDB 206/2	Hydraulic	48.5 - 168.0	1.910 - 6.625	956 000 030	56-000-03
SDB 412/2	Pneumatic	96.5 - 323.9	3.800 - 12.750	966 000 010	66-000-01
SDB 412/2	Hydraulic	96.5 - 323.9	3.800 - 12.750	966 000 030	66-000-03
SDB 412/2	Electric 220 V, 50 Hz	96.5 - 323.9	3.800 - 12.750	966 000 020	—

HYDRAULIC POWER UNITS

For available Hydraulic Power Unit options, see page 72.

AIR CONTROL MODULE

Air Control Module "ACM", see page 76.

CUTTING LUBRICATION

Cutting lubrication "KSS-TOP", see page 48.



Electric Hydraulic Power Unit



Air Control Module ACM provides remote control for pneumatic operation

SDB/FF Conversion Kits



SDB to FF Conversion Kit: head, mandrel, legs, & fasteners



Form tooling to single pointing conversion kit

CONVERSION KITS SDB/FF

ITEM	CODE	PART NUMBER
Conversion kits for Wachs model SDB 103/3		
Beveler conversion kit Converts FF 206 to Wachs model SDB 103/3 portable pipe and tube prepping machine to face, bevel, compound bevel and counterbore pipes with Ø 1in- 4in (25.4 - 101.6 mm). Includes: <ul style="list-style-type: none"> • 1 standard rotating head • 1 standard mandrel ID 1.16in - 4.18in (29.5 - 106 mm) • 7 sets of leg extensions • 1 wiper felt • Fasteners 	916 420 000	16-420-00
Flange facer conversion kit Converts SDB 103/3 to Wachs model FF 206 flange facing machine for flanges ID 2in (50.8 mm) to OD 6in (152.4 mm). Includes: <ul style="list-style-type: none"> • 1 single point flange facing tool slide • 1 independent "short perch" mandrel • 7 sets of leg extensions ID 1.95in - 4.11in (49.5 - 104.4 mm) 	916 421 000	16-421-00
Conversion kits for Wachs model SDB 206/2		
Flange facer conversion kit Converts model SDB 206/2 to Wachs model FF 313 flange facing machine. For flanges with ID 3in (76.2 mm) to OD 13in (330 mm). Includes: <ul style="list-style-type: none"> • 1 single point flange facing tool slide • 3-jaw independent "short perch" mandrel • 18 sets of leg extensions ID 3.00in - 10.08in (76.2 - 256 mm) 	956 421 000	56-421-00
Conversion kit FF 313 to SDB 206/6.	956 420 000	56-420-00
Conversion kits for Wachs model SDB 412/2		
Beveler conversion kit Converts Wachs model FF 424 to Wachs model SDB 412/2 portable pipe and tube prepping machine to face, bevel, compound bevel and counterbore pipes with Ø 4in - 12in (102 - 305 mm) Includes: <ul style="list-style-type: none"> • 1 standard rotating head • 1 standard mandrel ID 3.8in - 12.02in (96.5 - 305 mm) • 8 sets of leg extensions • 1 wiper felt • fasteners 	966 420 000	66-420-00
Flange facer conversion kit. Converts Wachs model SDB 412/2 to Wachs model FF 424 flange facing machine. For flanges with ID 4in (101.6 mm) to OD 24in (609.6 mm). Includes: <ul style="list-style-type: none"> • 1 single point flange facing tool slide • 3-jaw independent "short perch" mandrel • 23 sets of leg extensions ID 3.78in - 20in (96 - 508 mm) 	966 421 000	66-421-00

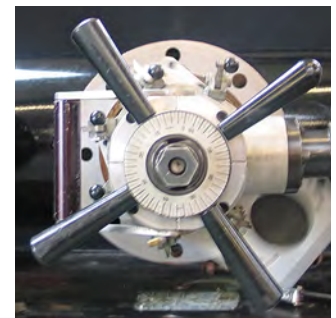
FF Flange Facer



Lathe quality surface finish



Based on powerful
SDB end prep platform



Convertible to SDB
series end prep

FAST, EASY SETUP - SELF CENTERING DESIGN

Now anyone can produce a lathe quality surface finish on flat, raised or recessed face flanges in minutes. Based on the powerful Wachs SDB series ID mount end prep machines, the Wachs FF series flange facers offer a rugged yet lightweight and compact design that allows them to fit into tight quarters. With the addition of the SDB conversion kit, the FF models can be converted into SDB series machines, allowing them to face, bevel, compound bevel and counterbore.



FF Flange Facer - Overview



FF Flange Facer 206



FF Flange Facer 313



FF Flange Facer 424

Wachs FF series flange facers are based on the powerful and versatile SDB series of bevelers. Simple to operate, they mount to the pipe ID and are self centering. Specify the SDB conversion kit to add beveling, facing and counterboring capabilities.

- Fast, easy setup – self centering design
- Simple operation, light-weight and compact
- Record groove, RMS 500, 250, 125
- Convertible to SDB series with optional SDB conversion kit

MODEL FF 206

Flange facing machine for facing flat, raised or recessed face flanges from ID 2in (50.8 mm) through OD 6in (152.4 mm) up to a 2in (DN50) 150# flange.

MODEL FF 313

Flange facing machine for facing flat, raised or recessed face flanges from ID 3in (76.2 mm) through OD 13in (320.2 mm) up to a 6in (DN150) 400# flange.

MODEL FF 424

Flange facing machine for facing flat, raised or recessed face flanges from ID 4in (101.6 mm) through OD 24in (609.6 mm) up to a 16in (DN400) flange.

SPECIFICATIONS	FF 206	FF 313	FF 424
Machine capacity (pipe ID to OD)	50.8 - 152.4 mm 2in - 6in	76.2 - 330.2 mm 3in - 13in	101.6 - 609.6 mm 4in - 24in
Standard equipment	<ul style="list-style-type: none"> • Heavy duty drive (air or electric) • 3-jaw independent "short perch" mandrel ID 49.5 - 104.4 mm (1.95in - 4.11in) • 7 sets of leg extensions • Single point flange facing tool slide • Tooling package • Watertight storage case • Operating hand tools • Manual 	<ul style="list-style-type: none"> • Heavy duty drive (air, electric or hydraulic) • 3-jaw independent "short perch" mandrel ID 76.2 - 256 mm (3in - 10.08in) • 18 sets of leg extensions • Single point flange facing tool slide • Tooling package • Watertight storage case • Operating hand tools • Manual 	<ul style="list-style-type: none"> • Heavy duty drive (air, electric or hydraulic) • 3-jaw independent "short perch" mandrel ID 96 - 508 mm (3.78in - 20in) • 23 sets of leg extensions • Single point flange facing tool slide • Tooling package • Watertight storage case • Operating hand tools • Manual
Shipping weight (est.)	21.3 kg 47 lbs	82 kg 180 lbs	
Shipping dimensions (est., w/o accessories)	635 x 559 x 229 mm 25in x 22in x 9in	305 x 813 x 305 mm 12in x 32in x 12in	

ITEM	DRIVETYPE	PIPE ID TO OD		CODE	PART NUMBER
		mm	inch		
FF 206	Pneumatic	50.8 - 152.4	2 - 6	916 000 330	16-000-FF
FF 206	Electric 110 V, 50 Hz	50.8 - 152.4	2 - 6	ON REQUEST	ON REQUEST
FF 206	Electric 220 V, 50 Hz	50.8 - 152.4	2 - 6	ON REQUEST	ON REQUEST
FF 313	Pneumatic	76.2 - 330.2	3 - 13	956 000 330	56-000-FF
FF 313	Electric 110 V, 50 Hz	76.2 - 330.2	3 - 13	ON REQUEST	ON REQUEST
FF 313	Electric 220 V, 50 Hz	76.2 - 330.2	3 - 13	ON REQUEST	ON REQUEST
FF 313	Hydraulic	76.2 - 330.2	3 - 13	ON REQUEST	ON REQUEST
FF 424	Pneumatic	101.6 - 609.6	4 - 24	966 000 330	66-000-FF
FF 424	Electric 110 V, 50 Hz	101.6 - 609.6	4 - 24	ON REQUEST	ON REQUEST
FF 424	Electric 220 V, 50 Hz	101.6 - 609.6	4 - 24	ON REQUEST	ON REQUEST
FF 424	Hydraulic	101.6 - 609.6	4 - 24	966 000 340	66-000-FH
FF 424	SDB 412/2 + FF 424 (Set)	101.6 - 609.6	4 - 24	966 000 040	66-000-04

SDB Beveler / FF Flange Facer - Accessories

MANDRELS

ITEM	CODE	PART NUMBER
Mandrels and accessories for Wachs model SDB 103/3		
Standard mandrel. For ID 1.16in - 4.18in (29.5 - 106 mm). Without leg extension sets.	916 303 000	16-303-00
Standard mandrel. For ID 1.16in - 4.18in (29.5 - 106 mm). Includes 7 sets of leg extensions.	916 409 000	16-409-00
3-jaw independent "short perch" mandrel. For ID 1.95in - 4.11in (49.5 - 104 mm). Includes 7 sets of leg extensions. Minimum 3/4in straight run required. To rigid mount on fittings, flanges, elbows and valves.	916 414 000	16-414-00
Small ID accessory mandrel. For ID 0.875in - 1.25in (22 - 31.75 mm). Includes: <ul style="list-style-type: none"> • 1 rotating head 3.13in (79.5 mm). 1/4in (4 x 6.35 mm) shank style tool slots. • 2 sets of leg extensions for ID mounting ranges: 0.875in - 1.125in (22 - 28.6 mm) and 1in - 1.25in (25.4 - 31.75 mm) • 1 mandrel • 1 draw bar nut • 1 drawbar • Fasteners 	916 401 000	16-401-00
Mandrels and accessories for Wachs model SDB 206/2		
Standard mandrel "new style 2009" For ID 2.27in - 2.92in (58 - 74 mm). Without leg extension sets.	956 430 010	56-430-01
Standard mandrel "new style 2009". For ID 2.27in - 6.77in (58 - 172 mm). Includes 7 sets of leg extensions.	956 430 000	56-430-00
Standard range leg extension kit For standard mandrel "new style 2009". For ID 2.75in - 6.77in (70 - 172 mm).	956 430 020	56-430-02
Upgrade for obsoleted mandrel 956 401 010. Requires return of the 956 401 010 mandrel and the following items to be in good reusable condition to complete the upgrade: 956 188 000 956 035 000 956 036 000 956 024 020 956 025 000 Estimate for repair will be given for any items not acceptable to complete the conversion.	956 310 000	56-310-00
Small ID accessory mandrel. For ID 1.91in - 2.46in (48.5 - 62.5 mm).	956 402 010	56-402-01
Extender kit "new style 2009" for mandrel 956 430 000. Includes: <ul style="list-style-type: none"> • 4 sets of leg extensions for ID 6.71in - 9.04in (170 - 229.6 mm) • 1 rotating head (8in). 	956 407 020	56-407-02
Small 3-jaw independent "short perch" mandrel. For ID 2in - 3.25in (50.8 - 82.5 mm). Includes 3 sets of leg extensions. To rigid mount on fittings, flanges, elbows and valves.	956 416 010	56-416-01
3-jaw independent "short perch" mandrel. For ID 3in - 6.08in (76.2 - 154 mm). Includes 8 sets of leg extensions. Minimum 3/4in (19.05 mm) straight run required. To rigid mount on fittings, flanges, elbows and valves.	956 414 010	56-414-01
Extension adapter hub. For ID 6in - 10.1in (152.4 - 256.5 mm). Includes 10 sets of leg extensions. For 3-jaw independent "short perch" mandrel 956 414 010.	956 415 000	56-415-00
Single point flange facing tool slide. For flanges with ID 3in (76.2 mm) to OD 13in (330 mm).	956 404 000	56-404-00



SDB 103 / FF 206

Mandrel Kit



SDB 206 / FF 313

Mandrel Kit

SDB Beveler / FF Flange Facer - Accessories



SDB 412 / FF 424 Mandrel Kit



Medium ID deburring tool
(non-wedgelock)



Bevel tool 37.5°
(non-wedgelock)



3/32 radius 2-sided "J" bevel
tooling insert (Premium)

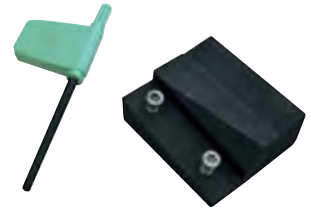
ITEM	CODE	PART NUMBER
Mandrels and accessories for Wachs model SDB 412/2		
Standard mandrel For ID 3.80in - 12.02in (96.5 - 305 mm). Without leg extension sets.	966 301 010	66-301-01
Standard mandrel For ID 3.80in - 12.02in (96.5 - 305 mm). Includes 8 sets of leg extensions.	966 407 010	66-407-01
3-jaw independent "short perch" mandrel For ID 3.75in - 12.80in (95 - 325 mm). Includes 13 sets of leg extensions. Minimum 3/4in straight run required. To rigid mount on fittings, flanges, elbows and valves.	966 414 010	66-414-01
Extension adapter hub For ID 12.72in - 20in (323 - 508 mm). Includes 10 sets of leg extensions. For 3-jaw independent "short perch" mandrel 966 414 010.	966 415 000	66-415-00
Leg set replacement Includes: 3 chuck legs (966 084 000) 1 complete set of extension leg assemblies form 0.5in - 4in (12.7 - 101.6 mm)	966 411 000	66-411-00

FACING/BEVELING/COUNTERBORING TOOLS

ITEM	CODE	PART NUMBER
Facing/Beveling/Counterboring tools for Wachs model SDB 103/3		
FF Flange facing tool insert holder.	956 714 010	56-714-01
FF Flange facing tool insert for holder (956 714 010). Carbide.	960 702 000	60-702-00
Facing tool (non-wedgelock) For ID 1.16in - 3in (29.5 - 76.2 mm).	926 410 020	26-410-02
Facing tool (non-wedgelock) For ID 2.3in - 4.18in (58.4 - 106 mm).	926 410 030	26-410-03
Facing tool (non-wedgelock) Carbide tipped. Max. wall 0.75in (19.05 mm).	926 410 040	26-410-04
Custom HSS facing tool bit (non-wedgelock) Ground to customer specification.	ON REQUEST	26-SPT-01
Bevel tool 37.5° (non-wedgelock). For ID 1.16in - 3in (29.5 - 76.2 mm).	926 411 010	26-411-01
Bevel tool 37.5° (non-wedgelock). For ID 2.3in - 4.18in (58.4 - 106 mm).	926 411 020	26-411-02
Bevel tool 37.5° (non-wedgelock). For ID 2.14in - 2.7in (54.4 - 68.6 mm).	926 411 030	26-411-03
Bevel tool carbide 37.5° (non-wedgelock).	926 411 040	26-411-04
Bevel tool bit 20° "J" 3/32 radius (non-wedgelock). For ID 1.35in - 4in (34.3 - 101.6 mm). Use with facing tool 926 410 020 for 0.03in (0.76 mm) land extension.	926 713 000	26-713-00
Custom HSS single angle bevel tool bit (non-wedgelock). Ground to customer specification.	ON REQUEST	26-SPT-02
Custom HSS "J" bevel tool bit (non-wedgelock). Ground to customer specification.	ON REQUEST	26-SPT-06
Universal beveling and facing tool 37.5° (non-wedgelock). For ID 1.5in - 3in (38.1 - 76.2 mm).	926 413 010	26-413-01
Universal beveling and facing tool 37.5° (non-wedgelock). For ID 2.2in - 3.8in (55.9 - 96.5 mm).	926 413 020	26-413-02
Custom HSS combination facing and beveling tool bit (non-wedgelock). Ground to customer specification.	ON REQUEST	26-SPT-04
Small ID deburring tool (non-wedgelock). 0.186in (4.7 mm) required between mandrel and ID.	926 412 010	26-412-01
Medium ID deburring tool (non-wedgelock). 0.43in (10.9 mm) required between mandrel and ID.	926 412 020	26-412-02
Large ID deburring tool (non-wedgelock). 0.68in (17.3 mm) required between mandrel and ID.	926 412 030	26-412-03
Combo 30° taper counterbore and facing tool (non-wedgelock) 0.326in (8.3 mm) required between mandrel and ID.	926 426 000	26-426-00
Custom HSS ID deburring tool (non-wedgelock). Ground to customer specification.	ON REQUEST	26-SPT-03

SDB Beveler / FF Flange Facer - Accessories

ITEM	CODE	PART NUMBER
Custom HSS counterboring tool bit (non-wedglock). Ground to customer specification.	on request	26-SPT-05
Facing/Beveling/Counterboring tools for Wachs model SDB 206/2 and SDB 412/2		
Facing tool insert holder (low range) includes: • 1 holder (956 198 010) • 2 insert screws (956 190 000) • 1 wrench (956 191 000)	956 708 010	56-708-01
Facing tool insert holder (high range) includes: • 1 holder (956 198 020) • 2 insert screws (956 190 000) • 1 wrench (956 191 000)	956 708 020	56-708-02
Premium grade HSS insert (2 sided). For facing and beveling. For use with all Wachs SDB 206, SDB 412 and EP 424 insert holders.	956 711 010	56-711-01
Carbide 2 sided insert. For facing and beveling. For use with all Wachs SDB 206 and SDB 412 insert holders.	956 712 010	56-712-01
Insert holder kit includes: • 1 low range facing insert holder (956 708 010) • 1 high range facing insert holder (956 708 020) • 1 bevel insert holder 37.5° (956 709 030) For use with all Wachs models SDB 206, SDB 412 and EP 424.	956 710 010	56-710-01
Custom HSS facing tool bit (form tool). Ground to customer specification.	ON REQUEST	56-SPT-02
Custom facing insert holder. Ground to customer specification.	ON REQUEST	56-SPT-09
30° bevel tool insert holder kit includes: • 1 holder (956 199 020) • 2 insert screws (956 190 000) • 1 wrench (956 191 000)	956 709 020	56-709-02
Bevel tool insert holder kit 37.5° includes: • 1 holder (956 199 030) • 2 insert screws (956 190 000) • 1 wrench (956 191 000)	956 709 030	56-709-03
"J" bevel tool insert holder kit 20° (low range) includes: • 1 holder (956 199 010) • 2 insert screws (956 190 000) • 1 wrench (956 191 000) Use with facing insert holder 956 708 010 for 0.04in (1 mm) land extension.	956 709 010	56-709-01
"J" bevel tool insert holder kit 20° (high range) includes: • 1 holder (956 199 050) • 2 insert screws (956 190 000) • 1 wrench (956 191 000) Use with facing insert holder 956 708 010 for 0.04in (1 mm) land extension.	956 709 050	56-709-05
Premium grade HSS insert (2 sided). For facing and beveling. For use with all Wachs SDB 206, SDB 412 and EP 424 insert holders.	956 711 010	56-711-01
Premium grade HSS insert (2 sided) 3/32 radius "J" bevel insert. For use with 956 709 010 and 956 709 050 holders.	956 711 020	56-711-02
Carbide insert (2 sided). For facing and beveling. For use with all Wachs SDB 206 and SDB 412 insert holders.	956 712 010	56-712-01
Carbide insert (2 sided) 3/32 radius "J" bevel. For use with 956 709 010 and 956 709 050 insert holders.	956 712 020	56-712-02
Compound bevel form tool 10° x 37.5°.	956 707 000	56-707-00
Insert holder kit includes: • 1 low range facing insert holder (956 708 010) • 1 high range facing insert holder (956 708 020) • 1 bevel insert holder 37.5° (956 709 030) For use with Wachs models SDB 206, SDB 412 and EP 424.	956 710 010	56-710-01
Legacy single point beveling tool holder. For EP 424, FF 313 and FF 424, low range. EP 424 for OD 4.25in - 23.62in (108 - 600 mm).	956 424 000	56-424-00
NEW DuoEdge single point tooling, see on page 26.	—	—



Facing tool insert holder
(high range)



Premium grade HSS insert
(2 sided)

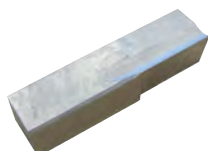


Bevel tool insert holder kit 37.5°

SDB Beveler / FF Flange Facer - Accessories



Legacy single point beveling tool holder



Legacy standard HSS tool bit
9.5 x 9.5 mm



Flange facing tool kit



Flange facing tool insert

ITEM	CODE	PART NUMBER
Legacy single point beveling tool holder. For EP 424, FF 313 and FF 424, high range. EP 424 for OD 7.25in - 24in (184 - 609.6 mm).	956 424 010	56-424-01
Custom HSS single angle bevel tool bit (form tool). Ground to customer specification.	ON REQUEST	56-SPT-01
Custom HSS compound angle bevel tool bit (form tool). Ground to customer specification.	ON REQUEST	56-SPT-03
Custom single angle "J" bevel tool bit (form tool). Ground to customer specification.	ON REQUEST	56-SPT-04
Custom HSS compound angle "J" bevel tool bit (form tool). Ground to customer specification.	ON REQUEST	56-SPT-05
Custom bevel angle insert holder. Ground to customer specification.	ON REQUEST	56-SPT-08
10° ID deburring tool. 0.15in (3.8 mm) required between mandrel and ID.	956 702 010	56-702-01
10° ID deburring tool. 0.449in (11.4 mm) required between mandrel and ID.	956 702 020	56-702-02
10° ID deburring tool. 0.762in (19.4 mm) required between mandrel and ID.	956 702 030	56-702-03
4:1 Taper counterbore tool. 0.315in (8 mm) required between mandrel and ID.	956 705 010	56-705-01
4:1 taper counterbore tool. 0.875in (22.2 mm) required between mandrel and ID.	956 705 020	56-705-02
4:1 taper counterbore tool. 1.375in (35 mm) required between mandrel and ID.	956 705 030	56-705-03
Custom HSS ID deburring tool bit. Ground to customer specification.	ON REQUEST	56-SPT-06
Custom HSS counterbore tool bit. Ground to customer specification.	ON REQUEST	56-SPT-07

FLANGE FACING TOOLS

ITEM	CODE	PART NUMBER
Flange facing tools for Wachs model FF 206		
Carbide insert. For beveling and flange facing. For use with insert holder 956 714 010.	960 702 000	60-702-00
Carbide insert tool holder kit. For single point beveling and flange facing includes: <ul style="list-style-type: none"> • 1 holder (916 042 000) • 1 flag wrench (956 191 000) • 2 retaining screws (960 231 010) • 5 inserts (960 702 000) 	916 701 000	16-701-00
Flange facing tools for Wachs model FF313 and FF 412		
Flange facing tool kit includes: <ul style="list-style-type: none"> • 1 low range insert tool holder (956 195 000) • 1 high range insert tool holder (956 194 000) • 2 tool inserts (956 710 000) • 2 insert retaining screws (956 190 000) • 1 screw wrench (956 191 000) 	956 418 010	56-418-01
Tool insert for flange facing (high and low range).	956 710 000	56-710-00
Custom form tool or single point insert holder. Ground to customer specification.	ON REQUEST	56-SPT-10

HYDRAULIC POWER UNITS

For available Hydraulic Power Unit options, see page 72.

AIR CONTROL MODULE

Air Control Module "ACM", see page 74.



New more powerful straight shaft axially mounted air motor



Tool-Free 6B Spline Connection for All New DynaPrep MDSF



Electric Power Drive works on split frame & EP 424 machines

IDEAL POWER DELIVERY SOLUTIONS FOR PIPE CUTTING AND BEVELING

E.H. Wachs offers a wide variety of power drive options including electric, hydraulic and pneumatic. For all of our quality machine tools a smooth, controllable power source is essential for precise weld prep, which is essential to a quality finished weld. Many Wachs machines can be operated with multiple drive types; others are designed for a single or specialized drive type. Whichever machine you purchase or rent, O.D. or I.D. mounted, Wachs has the optimum power solution for your application.



POWER - HPU Hydraulic Power Units

MODEL	ENGINE	GPM/LPM	FRAME TYPE	OIL COOLER	FUEL	HYD OIL (USABLE)	HYD RELIEF PRESSURE	FILTRATION	LENGTH	WIDTH	HEIGHT	WEIGHT DRY
HCM-1G	9HP GAS	8 GPM (30.3 LPM)	CART MOUNT	AIR TO OIL	1.6 GAL (6.1 LTR)	5.0 GAL (18.9 LTR)	1500 PSI (103 BAR)	10 MICRON RETURN LINE CANISTER TYPE	26.5in (67.3cm)	20in (50.8cm)	27.5in (69.8cm)	143 lb (64.9 kg)
HCM-2G	11HP GAS	10 GPM (37.9 LPM)		None								
HCM-3G	18HP GAS	14 GPM (52.9 LPM)		AIR TO OIL								
HCM-3E2	15HP ELECTRIC	8 GPM (30.3 LPM)		AIR TO OIL with FAN	N/A	4.0 GAL (15.4 LTR)						
HCM-3E4		15 GPM (56.8 LPM)										
HCM-3E3												
HCM-D23	23HP DIESEL			AIR TO OIL	5.0 GAL (18.9 LTR)	5.0 GAL (18.9 LTR)	1800 PSI (124 BAR)		39in (99cm)	29in (73.7cm)	36.5in (93cm)	520 lb (236 kg)
HSM-5D	30 HP DIESEL	14 GPM (52.9 LPM)	SKID				1500 PSI (103 BAR)		CONSULT FACTORY			
HTM-5D			TRAILER									
HPU-15	15HP ELECTRIC	15 GPM (56.8 LPM)	CASTERS		N/A		2000 PSI (138 BAR)		41in (104cm)	21in (53.3cm)	28in (71.1cm)	430 lb (195 kg)
HSM-SQ	15HP ELECTRIC	15 GPM (56.8 LPM)	SKID				1500 PSI (103 BAR)		43.7in (110cm)	31.5in (80cm)	56.3in (143cm)	CONSULT FACTORY



CART MOUNT - GASOLINE MODEL HCM-1G (14-000-02)

9 H.P. Honda gasoline engine driven hydraulic cart mounted power unit, with electric start, hour meter, spark arrestor, low oil level shut down and oil cooler.
Rated for 8 GPM @ 1500 PSI (30.3 LPM @ 103 BAR)

MODEL HCM-2G (14-000-08)

11 H.P. Honda gasoline engine driven hydraulic cart mounted power unit, with electric start, hour meter, spark arrestor, low oil level shut down and oil cooler.
Rated for 10 GPM @ 1500 PSI (37.9 LPM @ 103 BAR)

MODEL HCM-3G (14-000-25)

18 H.P. gasoline engine driven hydraulic cart mounted power unit, with electric start, hour meter, fuel gauge, spark arrestor, low oil level shut down and oil cooler.
Rated for 14 GPM @ 1500 PSI (52.9 LPM @ 103 BAR)



CART MOUNT - DIESEL MODEL HCM-D23 (14-000-33)

23 H.P diesel engine driven hydraulic cart mounted power unit, with electric start, hour meter, fuel gauge, spark arrestor, low oil level shut down and oil cooler.
Rated for 15 GPM @ 1800 PSI (56.8 LPM @ 124 BAR)

SKID/TRAILER MOUNT - DIESEL MODEL HSM-5D (14-000-31)

30 H.P diesel engine driven skid mounted hydraulic power unit, with electric start, oil cooler and enclosed storage compartment.
Rated for 14 GPM @ 1500 PSI (52.9 LPM @ 103 BAR)

MODEL HTM-5D (14-000-32)

30 H.P diesel engine driven trailer mounted hydraulic power unit, with electric start, oil cooler and enclosed storage compartment.
Rated for 14 GPM @ 1500 PSI (52.9 LPM @ 103 BAR)



POWER - HPU Hydraulic Power Units

CART MOUNT - ELECTRIC

MODEL HCM-3E2-60 (14-000-21)

15 H.P. 220-240V 60Hz (IP44 rated) 3 phase electric motor driven hydraulic cart mounted power unit, with electric motor switch and oil cooler.

Rated for 15 GPM @ 1500 PSI (56.8 LPM @ 103 BAR)

MODEL HCM-3E4-60 (14-000-22)

15 H.P. 440-480V 60Hz (IP44 rated) 3 phase electric motor driven hydraulic cart mounted power unit, with electric motor switch and oil cooler.

Rated for 15 GPM @ 1500 PSI (56.8 LPM @ 103 BAR)

MODEL HCM-3E2-50 (14-000-27)

15 H.P. 205-220V 50Hz (IP44 rated) 3 phase electric motor driven hydraulic cart mounted power unit, with electric motor switch and oil cooler.

Rated for 15 GPM @ 1500 PSI (56.8 LPM @ 103 BAR)

MODEL HCM-3E4-50 (14-000-28)

15 H.P. 415-440V 50Hz (IP44 rated) 3 phase electric motor driven hydraulic cart mounted power unit, with electric motor switch and oil cooler.

Rated for 15 GPM @ 1500 PSI (56.8 LPM @ 103 BAR)

MODEL HCM-3E3-50 (14-000-29)

15 H.P. 380V 50Hz (IP44 rated) 3 phase electric motor driven hydraulic cart mounted power unit, with electric motor switch and oil cooler.

Rated for 15 GPM @ 1500 PSI (56.8 LPM @ 103 BAR)



HEAVY DUTY - ELECTRIC

MODEL HPU-15 (14-000-20)

15 H.P. 440-480V 60Hz 3 phase electric motor driven heavy duty hydraulic power unit on separate, removable caster wheeled cart, with remote control pendant, flow control and oil cooler.

Rated for 15 GPM @ 2000 PSI (56.8 LPM @ 138 BAR)



SKID MOUNT - ELECTRIC

SafeQuip

MODEL HSM-SQ [900 002 011]

15 H.P. 440V 50/60 Hz, 32A 11kW (IP55 rated) 3 phase electric motor driven skid mounted heavy duty hydraulic power unit. Designed to meet current CE European standards and guidelines, the SafeQuip features a handheld remote pendant to control the main functions including variable speed control. Additional features include:

Hour meter , oil cooler and oil leakage sump

IP55 protection against dust and water ingress

Solid frame with lifting eyes to protect hardware

Remote start, stop, speed control, emergency stop

Remote control cable length: 16.4 ft (5m)

Rated for 15 GPM @ 1500 PSI (56.8 LPM @ 103 BAR)



POWER - EPD Electric Power Drive



Power controller is compact and portable



EPM (Electric Power Motor) with quick clamping system and speed independent air cooling



Remote control with speed regulator and power LED

E.H. Wachs Electric Power Drive (EPD) is a self contained, compact electric drive system that's an alternative to traditional pneumatic and hydraulic drives for larger field portable machine tools. Lightweight and easily transportable the Wachs EPD is powerful enough for all but the most demanding applications. Developed in Germany to world class standards the EPD is ideal for the power generation, oil & gas and pipeline distribution industries. Highly efficient, it eliminates the energy loss inherent in converting electric power to pneumatic or hydraulic, requiring less hardware.

Wachs Electric Power Drive is a complete system that includes the electric drive motor, power supply/controller and remote control pendant. Weighing less than 16.5 kg (36 lbs), the electric power box (EPD) controller is housed in a small suitcase sized housing sealed to IP65 moisture and dust resistance standards. The high frequency electric power motor (EPM) is a lightweight (9 kg (19.8 lbs) yet powerful design also protected to IP65 that utilizes a quick, tool free mounting system.

SPECIFICATIONS

System Function	Electric Power Drive for E.H. Wachs LCSF Split Frame Models 206/3 and larger, EP 424 Form Tool and EP 424 Single Point models
Hand Pendant Construction	Black aluminum housing with stop/start, e-stop, motor speed control and hold to run trigger, 16.4 foot (5M) cable.
	EPM (Electric Power Motor)

ELECTRIC POWER MOTOR FEATURES:

- Premium construction for durability
- Maintenance free brushless design
- Moisture and dust resistant to IP65
- High torque output at low speed
- High voltage and current spike protection
- Rated for high continuous operating temperatures
- Over temperature protective thermal switch
- Overload clutch on drive motor

POWER CONTROLLER FEATURES:

- Small design size by high frequency technology
- Highly portable unit
- Versatile tool-free quick connection for machine mounting
- Runs on 220V (Single Phase), 230V-380V (3-Phase) or 480V 3-Phase (4KW- 8KW); optionally with 230V or 380 - 480V cable
- Moisture and dust resistant to IP65
- Error codes display
- Service reminder for gear, oil, and seal changes
- High torque at low speed
- Over temperature protection

REMOTE CONTROL FEATURES:

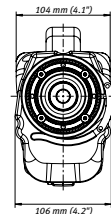
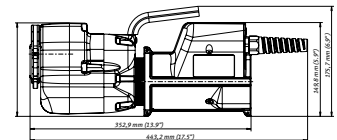
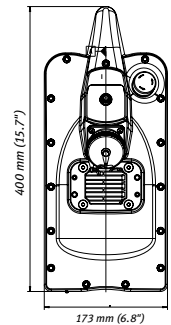
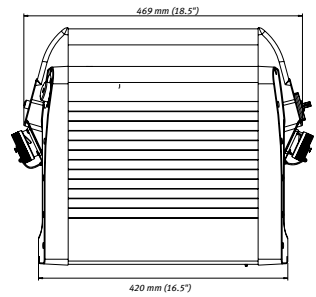
- Emergency Stop
- Speed control
- Hold to run trigger
- Start and Stop control

POWER CONTROLLER (POWERBOX):

The EPD power controller drives the high frequency electric motor, and is available to cover the most popular voltages: a 220 V single phase, 230V - 380V 3 phase or 480V 3 phase.

POWER - EPD Electric Power Drive

SPECIFICATIONS	ELECTRIC POWER DRIVE EPD
	Powder coated AC high frequency inertia brushless motor with aluminum housing and gear box, high voltage, current spike and over temperature protected. Output speed infinitely variable.
Voltage	<ul style="list-style-type: none"> • 220 V (1-phase) • 230 - 380 V (3-phase) • 480 V (3-phase)
Power	4 - 8 KW (4 kW at 230 V cables, 8 kW at 400 V cables) at 220 V approx. 40% lower speed
Speed (RPM)	160/250 RPM
EPM Part #	EPM8
Frequency	50 - 60 Hz
Amps	15 - 20 A
Weight	9.0 kg / 19.8 lbs
	EPB (Electric Power Box) Controller
	16.4 foot (5 m) power cord and motor cables. Power cord ships without wall receptacle, user installation required.
Voltage	<ul style="list-style-type: none"> • 230 V (1-phase) • 400 V (3-phase) • 480 V (3-phase)
Power	8 - 12 KW
EPM Part #	EPB 480
Frequency	50 - 60 Hz
Amps	15 - 20 A
Weight	16.5 kg / 36.38 lbs
Standard equipment	<ul style="list-style-type: none"> • 1 Electric Power Motor EPM 8 • 1 Electric Power Box EPB 480 • 1 Remote Control • 1 Power supply cable (depending on version) • 1 Hard-shell carrying case • 1 Operating instructions



ITEM	VERSION	CODE	PART NUMBER
EPD for DynaPrep MDSF	220 V Single Phase	960 133 501	69-4357-01
EPD for DynaPrep MDSF	220 - 480 V 3-Phase		69-4357-03
EPD for LCSF	220 V Single Phase	900 007 002	60-452-01
EPD for LCSF	220 - 480 V 3-Phase	900 007 001	60-452-03
EPD for EP 424 (Requires Adapter)	220 V Single Phase	900 007 004	60-452-01
EPD for EP 424 (Requires Adapter)	220 - 480 V 3-Phase	900 007 003	60-452-03
EP 424 adapter for pneumatic and hydraulic machines*		981 500 000	81-500-00

* add EPD for EP424 separately.

ELECTRIC DRIVE MOTORS

E.H. Wachs German manufactured Eibenstock electric drives represent the pinnacle of precision electric drive motors. They are used to power LCSF Low Clearance Split Frames 1824 and smaller, SDB 206 and 412 end preps plus FF 313 and 424 flange facers. Smooth, quiet and powerfully efficient they pack a large amount of power in a relatively compact package. Available with straight or right angle drive in 110V and 220V models.



Provides electric power with right angle and straight drive

DESCRIPTION	PART NUMBER
HD Eibenstock Electric Drive Assembly-110V, LCSF	SPG-489-4110
HD Eibenstock Electric Drive Assembly-220V, LCSF	SPG-489-4220
Eibenstock HD Elect. Drive Assembly-110V, SDB 206/2-SDB412/2	SPG-519-4110
Eibenstock HD Elect. Drive Assembly-220V, SDB 206/2 - SDB 412/2	SPG-519-4220



Air Control Module ACM
for pneumatic motors



Ergonomic fingertip control with
safety stop button



ACM controlling Low Clearance
Split Frame

ACM AIR CONTROL MODULE FOR LCSF, SDSF, EP 424 AND SDB/FF.

- All air design, with no other power source required
- Compact and self contained, all controls and hoses fit in a strong, watertight case
- Lockable, self contained case with wheels and telescoping handle for easy transport
- Lightweight, ergonomic remote for operator comfort
- 1.8 m (6 foot) remote umbilical provides the operator unencumbered movement and optimum positioning
- Lockable shut-off for supply isolation
- Shut-off vents trapped system pressure
- Pressure regulator lockable at desired pressure, 116 psi (8 bar) maximum setting
- Dual unit pressure gauge for quick visual confirmation of supply pressure
- Emergency stop shuts off and dumps air motor supply
- Vented non-marring quick disconnect with easy push to connect and one handed disconnection
- Operator reset required following main pressure failure or emergency stop activation, preventing dangerous movement
- 6 m (20 foot) air line reaches air motor in any operating position for safety and durability

NEW ALL-IN-ONE AIR TREATMENT MODULE WITH REMOTE CONTROL.

The E.H. Wachs Air Control Module (ACM) provides remote operation capability for select models of Wachs pneumatic powered split frame and end prep machines. The ACM allows operators to cut and bevel pipe up to 7.9 m (26 feet) away. This feature can significantly reduce fatigue while moving the operator a safe distance from the workpiece, important in highly restricted or potentially hazardous environments. Housed in a strong, watertight wheeled case with a telescoping handle the ACM is extremely portable, simple to set up and easy to use at any job site.

EASY OPERATION

Everything needed to quickly set up and start operating remotely is contained inside the case. The ACM uses the large "Chicago" style air coupler for our LCSF and End Preps, and includes the required adapters to control the SDSF and other machines that use the smaller air connector. To enhance portability, the ACM operates solely on compressed air, requiring no external power. For fast removal and user safety the line quick disconnects have a self-venting feature that automatically vents line pressure on shut-off.

ALL-IN-ONE

The ACM is two products in one, an air treatment module that regulates and conditions the incoming air supply to protect valuable air motors, and a remote control device that allows the operator the freedom to move away from the machine. This all in one capability makes the Wachs ACM a cost effective investment that will pay big dividends in drive motor longevity, operator comfort and versatility.

SAFETY FEATURES

- Air supply isolation
- Pressure relief system
- Venting trapped pressure
- Emergency Stop
- Hands free operation

POWER - Pneumatic

ACM AIR CONTROL MODULE - CONTINUED

SPECIFICATIONS	
SYSTEM FUNCTION	Provides remote operation capability for select Wachs pneumatic split frame and end prep machines to cut and bevel pipe
SYSTEM CAPACITY	Operates pneumatically powered E.H. Wachs machine as indicated
AIR POWER REQUIREMENTS	ACM - 1.84 m ³ /min at 6.3 bar (65 cfm; 90 - 232 psi) compressed air supply
PACKAGING	Heavy duty storage case, transport with handle and wheels
DIMENSIONS	457 mm x 500 mm x 305 mm (18.0in X 19.7in X 12.0in)
MATERIALS	Rugged ultra high-impact copolymer resin case and steel control panel
WEIGHT	15.4 kg (34 lbs)
STANDARD EQUIPMENT	<ul style="list-style-type: none"> • Integrated control module • 1.8 m (6ft) remote cord • 6 m (20ft) air hose • Remote hand controller • Heavy Duty Transport/Storage Case • Operating Instructions



Air control module and remote control in a rugged light portable package

ITEM	CODE	PART NUMBER
Air Control Module ACM for pneumatic motors	960 420 000	60-420-00
LCSF Air Throttle	960 376 000	60-376-00
SDSF Air Throttle	980 376 000	80-376-00

AIR TREATMENT MODULE ATM

Extend the life of your pneumatic drive motors with our Air Treatment Modules that condition and regulate the incoming air.

ITEM	CODE	PART NUMBER
Air Treatment Module ATM (Non-CE)	926 407 000	26-407-00



Air Treatment Module ATM

DYNAPREP AIR TREATMENT MODULE

Pneumatic power is the first choice of most field machinists, but untreated air can be rough on even the toughest air motors. Strongly recommended, Wachs ATM Air Treatment Modules condition and regulate the incoming air to extend motor life.

DESCRIPTION	CODE	PART #
AIR TREATMENT MODULE	969 410 000	69-4100-00
AIR TREATMENT MODULE REMOTE	969 410 100	69-4101-00

PNEUMATIC DRIVE MOTORS

Wachs offers a newly expanded range of pneumatic, hydraulic and electric drive motor options, up to a full 10 hp (8 kW), offering the power and durability for form tooling, single pointing and other cutting uses.

	IMPERIAL	METRIC	CODE	PART #
2.5HP LCSF Pneumatic Reversible	2.5 hp	1.9 kW	960 401 001	60-4010-01
3HP Pneumatic Motor Right Angle with Handle	3 hp	2.2 kW	969 435 100	69-4351-00
3HP Pneumatic Motor Right Angle	3 hp	2.2 kW	969 435 300	69-4353-00
4HP Pneumatic Motor	4 hp	3.0 kW	969 435 500	69-4355-00
4HP Pneumatic Motor with Handle	4 hp	3.0 kW	969 435 600	69-4356-00
EPD Electric Power Drive	10 hp	8.0 kW	969 435 700	69-4357-00
Hydraulic Drive Motor	7.8 hp	5.8 kW	969 435 800	69-4358-00
Adapter Head Right Angle			969 435 900	69-4359-00



Pneumatic drive motors are available with straight & right angle drives

POWER Applications



NEW: Electric Power Drive (EPD), see page 74



Pneumatic drive motors

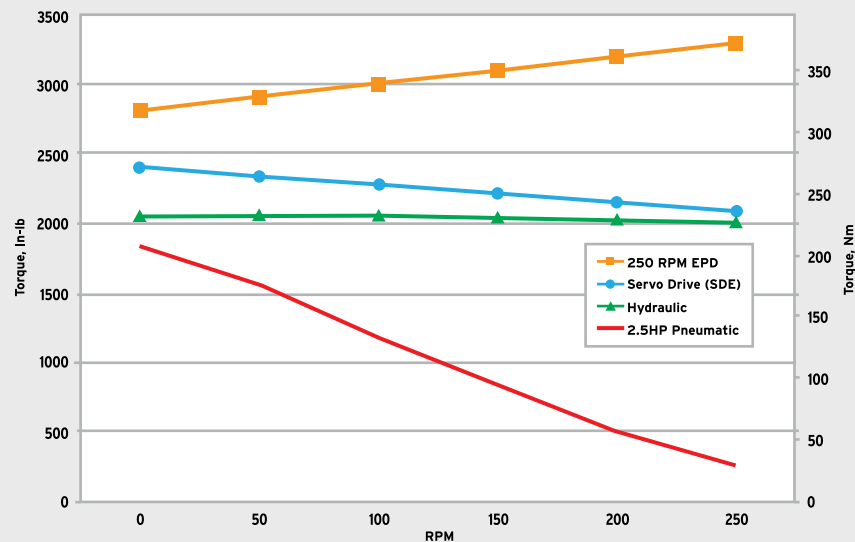


Hydraulic drive motor

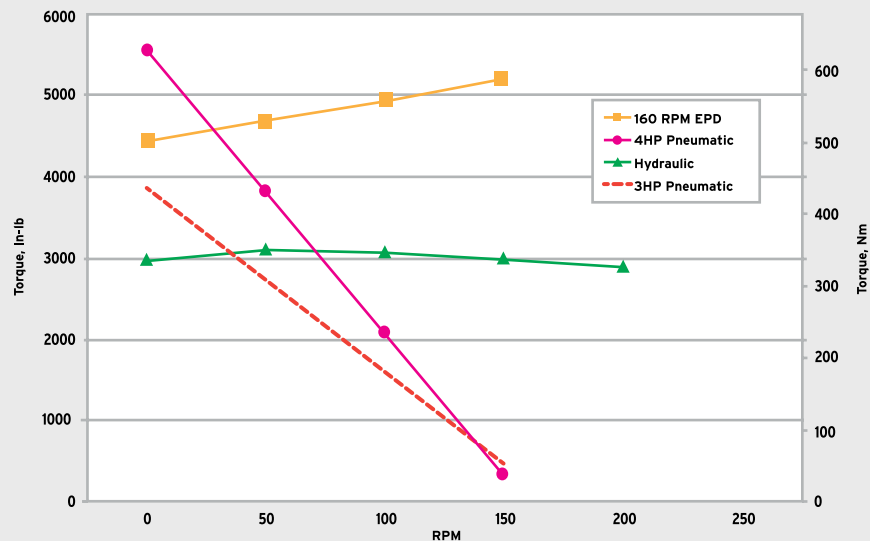
CHOOSING THE BEST DRIVE OPTION

E.H. Wachs offers a wide variety of power drive options, including pneumatic, hydraulic and electric. Pneumatic is the most popular choice due to the wide availability of compressed air, and offers good power characteristics and controllability. Hydraulic power is the most uniform across a given power range, regardless of the rpm the machine tool is operated at. It is a clean, sealed power source ideal for use in hostile environments including airborne salt spray, sand and partial or full immersion in mud or water. Electric power is the best choice where airborne or fluid contamination is highly undesirable, such as in high purity and power generation applications.

LCSF DRIVE MOTOR TORQUE COMPARISON ELECTRIC, PNEUMATIC DRIVE, & HYDRAULIC DRIVE

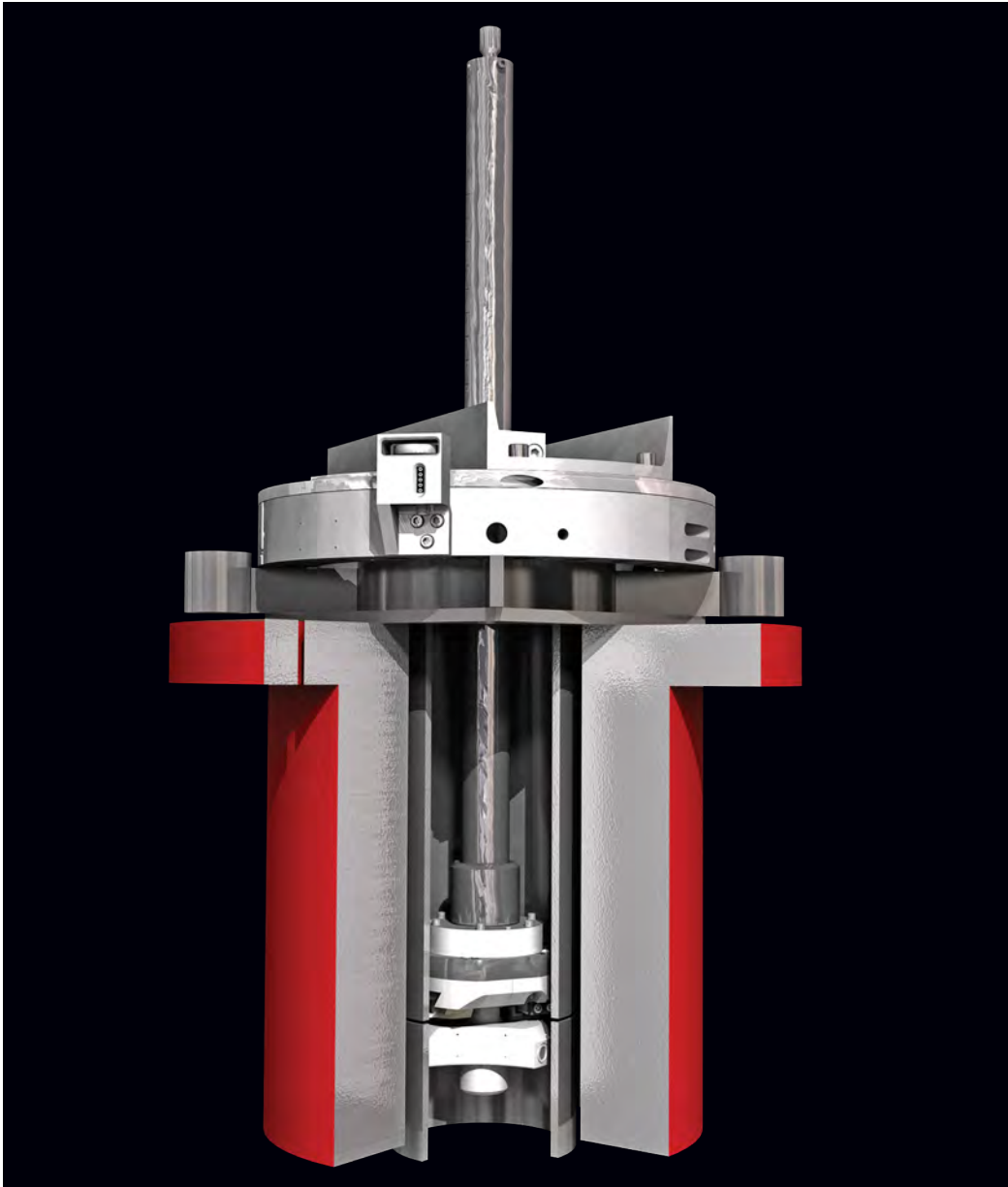


DYNAPREP MDSF DRIVE MOTOR TORQUE COMPARISON ELECTRIC, PNEUMATIC DRIVE, & HYDRAULIC DRIVE



Although initially providing more torque below 50 RPM, as the speed of operation increases the torque is drastically reduced for the pneumatic drive.

SPECIALTY Machines



ECC External Casing Cutter
designed to cut & bevel casings



Weld Coupon Station for
making test coupons



RS2 automatic valve operator
for rising stem valve turning

SPECIAL JOBS CALL FOR SPECIAL MACHINES: FROM CASING CUTTING TO VALVE OPERATION

E.H. Wachs has a long history of creating specialized machines for unique or challenging machining tasks. The products shown here are just a few of the tools we make for these tasks. If you need help with a difficult machining project contact your local Wachs representative – we may have a tool for the job.



SPECIALTY Machines - ECC External Casing Cutter



Simultaneously cuts and bevels casing



ECC can be used inverted for cut lines close to the flange



ECC low clearance design fits into tight operating envelope

PRECISION EXTERNAL CUTTING

E.H. Wachs ECC External Casing Cutter utilizes Wachs proven split frame technology to cut a wide range of casing conductors externally above the wellhead. The ECC split frame mounts around the exposed casing O.D. above the wellhead and simultaneously cuts and chamfers prior to fitting the BOP. Ring sizes are available for most grades and weights of the exposed external casing (or drive pipe/conductor) up to a 26in (660mm) diameter, with the ECC 814 AIR being the most common.

The ECC is based on Wachs proven split frame portable machine tool and takes advantage of the wide range of standard Genuine Wachs Tooling. It requires minimal axial and radial clearances, and is available with pneumatic or hydraulic drive. Remote hand held controls are optionally available for pneumatic powered machines.

The ECC is available in 6 standard ring sizes that feature interchangeable tool slides and machine drives to cut and bevel all wellhead casing grades, sizes and weights from 4-1/2in to 26in O.D. (with larger sizes available by special order). The ECC is portable, compact, lightweight and requires minimal axial and radial clearance. A single operator can setup and machine the casing for minimal open time. The ECC can be operated inverted for cut lines close to the flange

FEATURES

- External casing (drive pipe/conductor) cutting and beveling up to a 26in (660mm) diameter
- Utilizes standard Wachs Genuine Tooling for severing and chamfering
- Based Wachs field proven Split Frame technology
- Requires minimal axial and radial clearances; hydraulic or pneumatic drive

SPECIFICATIONS	
CUTTING TOOL SURFACE SPEED	60 ft. per minute (18 mpm)
MACHINE DRIVE	Pneumatic, Hydraulic
AIR REQUIREMENTS	70 cfm @ 80-100 psi (2 cmm @ 5.6-7 Bar)
HYDRAULIC REQUIREMENTS	8 gpm @ 1500 psi (30 lpm @ 103 Bar)
FEED METHOD	Star wheel feed
FEED RATE	Fixed @.0026in per revolution (starwheel)
STANDARD EQUIPMENT	<ul style="list-style-type: none"> • Self Squaring Mounting System • Fitted Storage Case • Operating Tools • Operating Manuals
OPTIONAL EQUIPMENT	<ul style="list-style-type: none"> • Extension legs • Tooling (standard and custom)

ECC EXTERNAL CASING CUTTER CASING/CONDUCTOR CUTTING RANGE CHART

CASING SIZE	4-1/2in (114mm)	5in (127mm)	5-1/2in (140mm)	6-5/8in (168mm)	7in (178mm)	7-5/8in (194mm)	8-5/8in (219mm)	9-5/8in (244mm)	10-3/4in (273mm)	11-3/4in (298mm)	13-3/8in (340mm)	16in (406mm)	18-5/8in (473mm)	20in (508mm)	24in (610mm)	26in (660mm)
ECC SF8																
ECC SF10																
ECC SF14																
ECC SF20																
ECC SF26																

SPECIALTY Machines - EICC Casing Cutter

PRECISION CUTTING INTERNAL AND EXTERNAL

The Wachs External-Internal Casing Cutter (EICC) is a multi-function system, which can accommodate a wide range of casing O.D.'s above the wellhead and I.D. cuts below. Based on E.H. Wachs LCSF Low Clearance Split Frame Technology, the casing cutter splits to mount around the casing O.D. above the wellhead. The Split Frame requires minimal axial and radial clearance. The EICC can be set-up and will cut casing above the wellhead in less than 30 minutes. An internal part and bevel attachment mounts to the Split Frame rotating ring to cut and/or bevel casing below the wellhead. Because of its ability to cut at various depths, the time the wellhead must remain open is reduced.

SPECIFICATIONS

MACHINING FUNCTION	Internal casing/pipe cutoff
CAPACITY	7in through 13 3/8in API casing.
MOUNTING SYSTEM	Three-leg, universal chuck.
TOOL SLIDES	Standard (7in-9 5/8in) extended range 10 3/4in-13 3/8in mechanical starwheel feed.
COUNTER	Mechanical/rotation.
TOOLING	Insert & holder/chamfer.
FEED RATE	.004in (0.1016 mm) per revolution
POWER	Pneumatic
WEIGHT	150 lbs. (69kg.)

MACHINING CAPABILITY

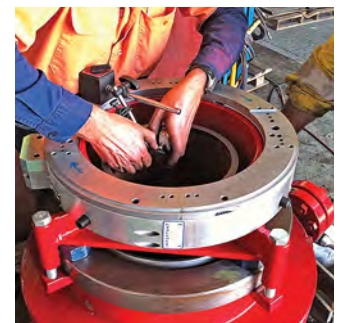
COMPATIBLE SPLIT FRAME	O.D. CASING SIZE	SPLIT FRAME SIZE inchES	SPLIT FRAME SIZE METRIC	PART NUMBERS
Model 610	7in - 9 5/8in (177.8 - 244.475mm)	6 - 10	152.4 - 254	60-4001-1031
Model 612		6 - 12	152.4 - 304.8	60-4001-1231
Model 814		8 - 14	203.2 - 355.6	60-4001-1431
Model 1016		10 - 16	254 - 406.4	60-4001-1631
Model 1420		14 - 20	355.6 - 508	60-4001-2031
Model 610	10 3/4in - 13 3/8in (273 - 339.7mm)	6 - 10	152.4 - 254	60-4002-1031
Model 612		6 - 12	152.4 - 304.8	60-4002-1231
Model 814		8 - 14	203.2 - 355.6	60-4002-1431
Model 1016		10 - 16	254 - 406.4	60-4002-1631
Model 1420		14 - 20	355.6 - 508	60-4002-2031

EICC EXTERNAL / INTERNAL CASING CUTTER CASING/CONDUCTOR CUTTING RANGE CHART

CASING SIZE	4-1/2in (114mm)	5in (127mm)	5-1/2in (140mm)	6-5/8in (168mm)	7in (178mm)	7-5/8in (194mm)	8-5/8in (219mm)	9-5/8in (244mm)	10-3/4in (273mm)	11-3/4in (298mm)	13-3/8in (340mm)	16in (406mm)	18-5/8in (473mm)	20in (508mm)	24in (610mm)	26in (660mm)
7in - 9-5/8in																
10in - 13-3/8in																



Size range includes most popular casing conductor sizes



EICC used for wellhead completion

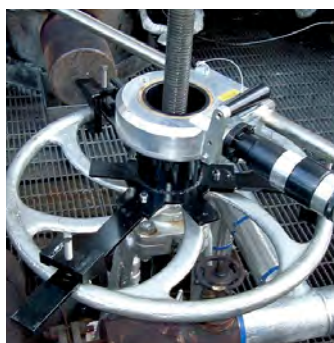


Internal cutting module lowered to cutting depth

SPECIALTY Machines - RS-2 Valve Operator



RS2 Rising Stem Valve Operator
electric model shown



RS2 with Handwheel Adapter



RS2 operating rising
stem valve



Allows for 2-person operation

POWERED VALVE TURNING AND OPERATION

Turning valves and valve handwheels is an important job for maintaining pipeline infrastructure. An organization can have hundreds or even thousands of valves that must be controlled, or in some industries “exercised”, the process of running a valve through its full cycle to prevent sticking or freezing caused by factors such as tuberculation.

The RS-2 (Rising Stem 2) Portable Valve Operator for both rising and non-rising stem valves delivers up to 800 lb-ft torque and a maximum of 55 rpm for fast, reliable opening and closing of water, wastewater, pipeline and petro-chemical valves.

HIGHLY VERSATILE

The RS-2, designed with operator health in mind, spares arm and back injuries associated with manually turning large, stubborn or frozen industrial valves. The RS-2 offers a range of adapters and accessories to suit most applications, including PIV (Post Indicator Valves). There’s a 1in (25.4mm) square drive adapter, dedicated handwheel adapters and a universal handwheel adapter to fit most common handwheels.

MULTI-FUNCTIONAL VALVE OPERATOR

- Available in hydraulic, pneumatic or electric Drive
- Operate all rising & non-rising stem valves from 6in to 60in
- 4in Opening for operating rising stem valves
- Mount to any handwheel with Universal Handwheel Adapter
- Forward and reverse operation. Variable speed control
- Built in easy view LCD counter
- 55 rpm high-speed operation for valves requiring several hundred turns
- 800 lb-ft torque for difficult valves

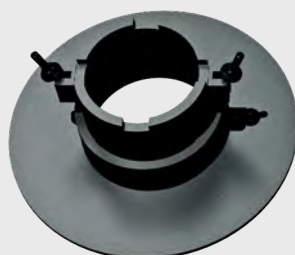
DRIVE-SPECIFIC SPECIFICATIONS

DRIVE TYPE	PART NUMBERS	POWER REQUIREMENTS	MOTOR CONTROLS
Pneumatic	78-000-03	60 cfm @ 90 psi	Variable speed Forward and reverse dial
Electric	78-000-01	110 volt AC (15 amps or 3500 watt generator)	Variable speed Adjustable torque control Forward and reverse control valve
Hydraulic	78-000-04	8 gpm @ 1800 psi	Variable speed Adjustable torque control Forward and reverse control valve

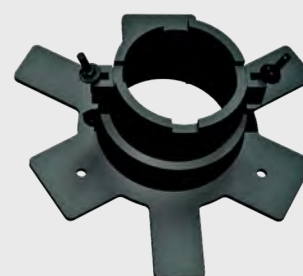
RS-2 HANDWHEEL ADAPTER

Provides the ability to use the rising stem valve operator with standard handwheels.

MODEL	PART NUMBERS
RS2 Dedicated Handwheel Adapter - Stays on handwheel for quick operation	P13-017-4007-00
RS2 Universal Handwheel Adapter	P13-017-4008-00



RS2 Dedicated
Handwheel Adapter
P13-017-4007-00



RS2 Universal
Handwheel Adapter
P13-017-4008-00

SPECIALTY Machines - High Purity

MB PLUS BEVELER

E.H. Wachs MB Plus (Medium Beveler Plus) is a low profile, I.D. mount portable hand-held beveler. Designed to weld prep tube and pipe from 1.25in I.D. through 3.5in O.D. (31.8-88.9mm) it's lightweight for all day comfort yet rugged enough to withstand heavy usage. Available as .75 or 1 HP pneumatic drive models.

MODEL	PART NUMBER	DESCRIPTION
MB "PLUS" PNEUMATIC WELD PREPARATION MACHINE	71-000-04	<ul style="list-style-type: none"> • Sealed Front Bearing • Torque Accepting Key System • Ratchet Tool Feed and Clamping • .75 H.P. Air Motor with Safety Trigger • 6ft Hose Whip with Swivel • 3 Tool Bit Capacity Tool Disk with Wedge Style Locking System • Captivated Clamp Leg Sets to Cover 1.0in to 2.3in I.D. Range • Custom Fitted Storage Case • Operating Hand Tools and Manual • Est. Shipping Wt. /Dims (34lbs - 25inx 22inx 9in) w/o Accessories *Replaces P/N 71-000-01*
MB "PLUS" HEAVY DUTY PNEUMATIC WELD PREPARATION MACHINE	71-000-05	<ul style="list-style-type: none"> • Sealed Front Bearing • Torque Accepting Key System • Ratchet Tool Feed and Clamping • 1.0 H.P. Air Motor with Safety Trigger • 6ft Hose Whip with Swivel • Large 3.5in O.D. 3 Tool Bit Capacity Tool Disk with Wedge Style Locking System • Captivated Clamp Leg Sets to Cover 1.0in to 3.4in I.D. Range • Custom Fitted Storage Case • Operating Hand Tools and Manual. • Est. Shipping Wt. /Dims (34lbs - 25inx 22inx 9in) w/o Accessories



MB Plus Beveler

TSE 1.0 TUBE SQUARING ELECTRIC

The Wachs TSE 1.0 is a lightweight, hand held or bench mounted portable tool designed for precision machining of square, burr-free faces on tubing from .250in through 1.00in (6.35mm–25.4mm) O.D. This unit features a unique hand rotating collet closure system and stainless steel collets (standard). The TSE 1.0 utilizes a trigger activated variable speed electric motor.

MODEL	DESCRIPTION	EST. SHIPPING WEIGHT	DIMENSIONS	PART NUMBER
110V Corded	<ul style="list-style-type: none"> • Complete with 110 Volt Metabo Drive Motor • One (1) Facing Tool Bit • Operating Hand Tools and Manual 	23.5lbs (10.7kg) without Accessories	20inx 15inx 8in without Accessories	18-000-05
220V Corded	<ul style="list-style-type: none"> • Complete with 220 Volt Metabo Drive Motor • One (1) Facing Tool Bit • Operating Hand Tools and Manual 	28.5lbs (12.9 kg) with Accessories	25inx 22inx 9in with Accessories	18-000-06
110V Cordless	<ul style="list-style-type: none"> • Complete with 110 Volt Metabo Charger • One (1) Facing Tool Bit • Operating Hand Tools and Manual 			18-000-10



TSE 1.0 Tube Squaring Machine

FSE 1.0 TUBE FITTING AND SQUARING MACHINE

The Wachs FSE 1.0 is a lightweight, bench mounted, portable tool for precision end finishing on fittings and tubes in seconds. The FSE 1.0 is capable of square, burr-free end preps on micro fittings and tubes from .125in through 1.00in (3.175mm–25.4mm) O.D. This model features a unique lock down and release clamping system that is ideal for volume applications.

MODEL	DESCRIPTION	EST. SHIPPING WEIGHT	DIMENSIONS	PART NUMBER
110V Corded	<ul style="list-style-type: none"> • Complete with 110 Volt Metabo Drive Motor • One (1) Facing Tool Bit • Operating Hand Tools and Manual 	23.5lbs (10.7kg) without Accessories	20inx 15inx 8in without Accessories	18-000-07
220V Corded	<ul style="list-style-type: none"> • Complete with 220 Volt Metabo Drive Motor • One (1) Facing Tool Bit • Operating Hand Tools and Manual 			18-000-08
110V Cordless	<ul style="list-style-type: none"> • Complete with 110 Volt Metabo Charger • One (1) Facing Tool Bit • Operating Hand Tools and Manual 			18-000-09



FSE 1.0 Tube Fitting and Squaring Machine

SPECIALTY Machines - Weld Coupon Station



Coupon shown with weld-ready bevel



Welded coupon – reusable

SAVE THOUSANDS MAKING YOUR OWN COUPONS

E.H. Wachs Weld Coupon Station is a self contained tool designed for machining weld preps onto ordinary pre-cut pipe sections, creating weld ready coupons. Wachs Coupon Station will machine virtually any prep including bevels, compound bevels and J-preps on carbon steel, stainless steel, alloy steel and aluminum pipe and tubing. With the optional mandrel assembly, it will counterbore from 2.75in to 6.63in I.D. (69.9 – 168.4mm). It's capable of handling all common coupon sizes up to "Super Coupons" with 2.75in O.D. (69.9mm) and 5/8in wall (15.9mm) and, with optional accessories, up to 6in (ND150)* Schedule 80.

SAVE YOUR COUPONS

Wachs Coupon Station will quickly pay for itself in time and material savings. For example, if you purchased and discarded 2,000 coupons per year at the current average cost of \$10.00 each, by using the Prep Station you'd save nearly \$20,000.00 and enjoy an extremely rapid return on your investment. Order your Weld Coupon Station today and you'll see that with Wachs, it pays to save your coupons.

SAFE AND EASY USE

Designed to mount on a bench or cart, the Coupon Station is built around E.H. Wachs powerful SDB 206/2 I.D. mounted machine tool, the finest of its kind. A totally self contained unit, it features a clear splash proof enclosure with a recirculating coolant system that dramatically extends tooling life. A screened chip collection tray protects against coolant contamination. Safe, clean and easy to use the Weld Coupon Station features precision external controls to effortlessly make the perfect weld prep in minutes.

SPECIFICATIONS

Machining Capacity: Common coupon sizes up to "Super Coupons" with 2.75in O.D. (69.9mm) and 5/8in wall (15.9mm) using included mandrel; with optional accessories up to 6in Schedule 80 (ND150)*

Feed Rate: .083in (2.1 mm) per revolution

Feed Stroke: 2.5in (63.5mm) usable feed travel with a .001in (.025 mm) feed scale

Chucking Capacity (I.D.): 2in (50.8 mm) pipe schedule 10, 40, 80, xx, super coupon

Controls: On/Off, Manual Clamp, Manual Feed, E-Stop, Speed and Coolant Shut-Off

Drive: Electric 110 V/AC @ 15 Amp - 60 Hz

Tool RPM: Variable 0 to 40 RPM

Tooling: Included 37.5 degree tooling holder kit, Genuine Wachs 56-711-01 high speed steel tooling with 2 precision ground cutting edges

Dimensions: Length 21in (533.4mm) x Width 18in (457.2mm) x Height 21in (533.4mm)

Weight: Without coolant 105 lbs (47.6Kg)

The deluxe model includes the optional mandrel assembly to counterbore from 2.75in to 6.63in I.D. (69.9 – 168.4mm). It's capable of handling all common coupon sizes up to "Super Coupons" with 2.75in O.D. (69.9mm) and 5/8in wall (15.9mm) and up to a 6in (DN150) schedule 80.

MODEL	CODE	PART NUMBER
Basic Weld Coupon Station	908 089 401	P08-089-401
Deluxe Weld Coupon Station	908 089 402	P08-089-402

GENUINE Wachs Tooling

BETTER VALUE

Genuine Wachs Tooling offers better value than imitation or universal tooling. Made specifically for E.H. Wachs machine tools, they fit perfect, hold an edge longer and can be resharpened multiple times. They deliver the precision finishes and speed you expect and deserve from E.H. Wachs equipment. Work stoppages from inexpensive tooling are only part of the reason Wachs tooling is the better value.

The tooling material selected is as important as the profile in delivering a superior machined surface. We have decades of experience manufacturing the best performing, longest lasting tooling for our machines.

Illustrated here are the basic types offered, simplified for clarity. Wachs offers an extensive lineup of tooling, bits and blades for most applications. To maintain the peak performance of your Wachs machines, be sure to specify Genuine Wachs Tooling.

Precisely engineered and fabricated with super high-strength materials, Wachs tooling is designed for today's higher speeds, heavier feed rates, and exotic materials. The result is precise cuts, longer tooling life and maximum productivity.



DuoEdge™ Holder and Insert Tool System



BLADES



SLITTING



O.D. BEVEL



RECIPROCATING

O.D. MOUNT BITS



INSIDE BEVEL



OUTSIDE BEVEL



DOUBLE BEVEL



PARTING



SINGLE POINT



COUNTERBORE



COMPOUND BEVEL



J-PREP

I.D. MOUNT BITS



FACING



BEVEL, INSERT



SINGLE POINT, INSERT

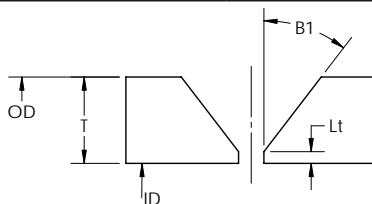
CUSTOM TOOLING MANUFACTURED TO ORDER

While standard Genuine Wachs Tooling works for many applications, we understand the need for custom tooling for specific applications and needs that arise in the field.

Please provide as much information possible about the project so we may better assist you in your request for customized tooling manufactured to order.

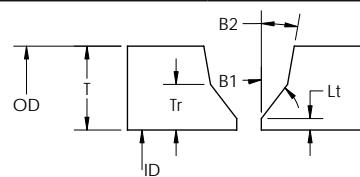
SINGLE BEVEL

Required	T
OD	Lt
ID	B1



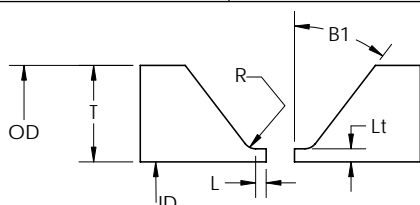
COMPOUND BEVEL

Required	T
OD	Lt
ID	B1
B2	Tr



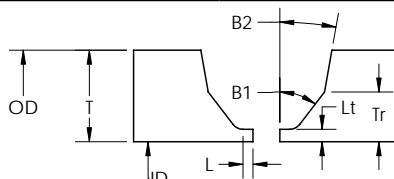
J-PREP

Required	T
OD	Lt
ID	B1
L	R



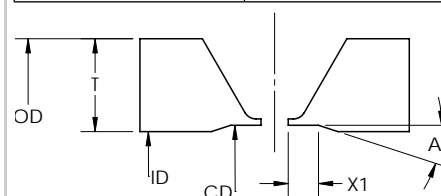
COMPOUND J-PREP

Required	
OD	B1
ID	B2
T	L
L1	Tr

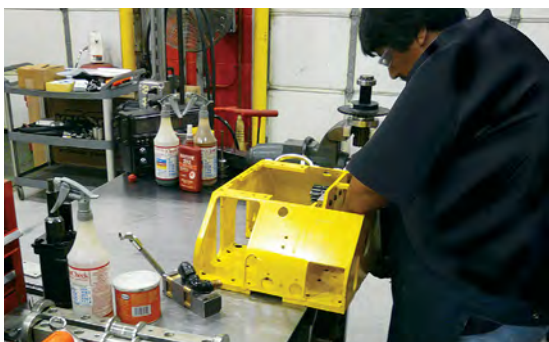


COUNTERBORE

Required	T
OD	X1
ID	A1
CD	



PARTS & Service



When it comes time for replacement parts or service for your Wachs equipment, trust it to the people who know it best - E.H. Wachs®. If your machine is showing the effects of age or heavy usage, consider replacement parts, our factory repair service or a complete refurbishing to like new condition.

SINGLE SOURCE

Nobody is better at supporting their machines after the sale than Wachs, your single source for consumables, OEM replacement parts and factory service. In addition to Genuine Wachs Tooling, our parts department offers a complete inventory of common replacement parts. From simple nuts and bolts to the most complex assemblies, our parts department quickly ships your order to minimize downtime.

FACTORY SERVICE

Wachs machines are made to work, and built tough to take it. But any machine, even heavy duty ones like ours, may require servicing over time. At E.H. Wachs, great service is only a phone call away. Arrange to send us your machine - we'll evaluate it and send you back a no cost recommendation to repair, upgrade, refurbish or replace it. A written quotation is furnished for your approval before any work is begun.

Wachs refurbishing restores your machine to perform and look like new. Wachs factory repaired or refurbished machines are backed with a full replacement parts warranty. Our state of the art major repair and upgrade facility is located in Lincolnshire, IL, with regular parts and service available at our Sales and Service Centers located in Illinois, California, Louisiana, Texas, Canada, the UK, Germany, India, and the UAE.

PARTS AND SERVICE

- Complete Parts Inventory
- Genuine Wachs Tooling
- Factory Repair & Upgrades
- Complete Refurbishing
- New Part Warranty
- Power Supply Calibration



Before



After

TECHNICIANS & Training



COMPLETE SUPPORT

E.H. Wachs technicians are available for onsite instruction, safety training and equipment maintenance anywhere around the world. Experienced professionals, they're expert in all aspects of Wachs equipment, from specifying machines and tooling to training your team on their effective use. For advanced training, consider specialized courses at the E.H. Wachs Training Center.

AT YOUR LOCATION OR OURS

As the premier manufacturer of portable cutting and weld prep machine tools, E.H. Wachs is best qualified to train your personnel on the proper operation of our products. That's the reason Wachs technicians are available, at your location or ours, for training and instruction on operating and maintaining our precision machine tools.

Onsite Wachs technicians are available anywhere around the world for instruction and training in the operation and maintenance of our products.

E.H. WACHS TRAINING CENTER

For the ultimate in training the E.H. Wachs Training Center, located at our facility in Lincolnshire, IL, offers comprehensive courses for all our products. It's the premier training center dedicated to pipe cutting and weld preparation technologies, and is ideal for field machinists in the oil and gas, power generation, petrochemical and related industries.

Your E.H. Wachs instructors are not just academics – all of them have real world experience and participate in the design, development and evolution of these advanced machines. This gives our people unique insight into the newest industry trends, procedures and techniques.

At our facility the focus is on classroom education and hands-on training in the operation of portable machine tools. You'll leave with a comprehensive understanding of the industry, plus detailed knowledge and skill in the use and maintenance of these state of the art machines.



RENTALS



AVAILABLE WORLDWIDE

When it makes more sense to rent than to buy, virtually the entire product lineup of Wachs and Orbitalum are available for rental on a daily, weekly or monthly basis. We maintain a large inventory of machines, welding systems and accessories ready to ship from our Sales, Service, and Rental Centers to virtually any spot on the globe, including remote or offshore locations.

FACTORY RENTALS

Factory rentals are a great option for short term usage such as emergency repair projects, scheduled turnarounds or power generation outages. Individually inspected and tested before shipment, our machines and welding systems arrive configured for your exact application. Many clients start with renting our products and find them so powerfully productive they choose to purchase.

Offering more than just equipment and tooling, ITW-OCW Sales, Service & Rental Centers are staffed with expert technical product specialists to help you quickly specify the right machine, power source and tooling for your application. Renting with us gives you access to the entire range of technical support and engineering expertise that we're renowned for.

UNRIVALED SUPPORT

Our rental equipment is available in many locals on a next day basis through our 24 hour on call service. Call today and we'll ship today. Wachs Split Frames, Trav-L-Cutters, Guillotine Saws, EP 424 end prep machines, Orbitalum GF series tube saws, 165 and 300 series orbital welding systems with weld heads are all in stock ready for immediate shipment. In fact virtually every product we manufacture is available as a factory rental.

We're available 24/7 to help with questions, problems or any additional equipment or supplies needed to complete your project. Other options for managing your equipment rentals are available, up to and including specially trained factory onsite technicians to help manage and maintain our machines, or instruct your workforce on their proper use.

ITW Welding



ITW Welding

The ITW Welding group serves the global welding industry with superior products, and unparalleled service. The group includes leading manufacturers of weld prep machine tools, filler metals, welding machines, induction heating equipment, and welding consumables, components and accessories for a wide variety of applications. ITWWelding.com



ITW Welding offers a full line of industrial quality welders from Miller Electric Mfg. Co., headquartered in Appleton, Wisconsin. Miller is a leading worldwide manufacturer of Miller arc welding and cutting equipment, delivering ruggedly reliable equipment of the highest quality. The Welding Components group includes Bernard MIG-Guns, Weldcraft TIG-Torches, Tempil temperature markers, and Smith Equipment, combining four well known suppliers for welding accessories. MillerWelds.com



Hobart Brothers based in Troy, Ohio features a full line of filler metals for applications ranging from mild steel and low alloy steel to stainless steel. Available products include stick electrodes, solid wires and flux cored wires in a variety of diameters and packaging. All Hobart brand filler metals feature superior arc performance and selections are available for fast-freezing or self-peeling slag, low hydrogen weld deposits, high deposition rates and efficiencies, and x-ray quality welds. HobartBrothers.com

Our ITW Partners

When you partner with us you're not only partnering with the industry leader in portable weld preparation machine tools and orbital welding systems, you're partnering with ITW, the industry leader in advanced welding technologies.

ITW has a market leading portfolio of best in class brands offering reliable and responsible products for the markets we serve.

When reliability matters...
We're there.



Forging the Tools
for Excellence

ITW OCW Corporate Locations

★ Sales Locations

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Contact your local ITW Orbital Cutting & Welding representative for additional information or to request a product demonstration.

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