Grinding and Lapping Equipment for Valves

The Polir Series

Portable, battery driven grinding and lapping machine for Globe- and Safety valves.

The Polir F6 machine is designed for on-site or in-shop valve reconditioning. The light weight machine is equipped for a full, universal range up to 6” / DN150 mm. The Polir F6 is standard equipped with a range of plates for grinding and lapping any type or size of flat seats ¼ up to 6” / DN6 - 150 mm. The centre plate keeps the grinding plate in position, but also gives an eccentric, orbital rotation ensuring constant, complete coverage and absolute flatness.

Including the V-TEC orbital mechanical driven grinding and lapping technology

Versatile, universal tool for Gate-, Parallel Slide-, Globe- and Safety valves

Highest material removal rate with the best flatness accuracy

Robust and light weight

Orbit Series

Portable Grinding Machine for Gate-, Parallel Slide-, Check- & Globe Valves 1½ - 64” / DN40 - 1600 mm.

The ORBIT is a robust, but light weight grinding and lapping machine for ‘in-situ’ or ‘in-shop’ repair of damaged valve seats. The unique set up and construction makes the versatile ORBIT suitable for all sorts of vertical seats (Gate-, Parallel slide-, Check Valves) and horizontal mounted seats (Globe- & Safety valves).

Meet V-TEC

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As part of the Ventil group, V-TEC can rely on over 50 years of experience in the design and delivery of Grinding and Lapping solutions for all valve types and sizes. The extended program of delivery includes a complete line of machines, tools and accessories for the Shut-off-, Control- and Safety valve repair and reconditioning process. The V-TEC engineering team is available for supporting you with knowledge, feedback and specially designed solutions. Located in Rijswijk, The Netherlands, V-TEC is close to Amsterdam Schiphol Airport and Rotterdam Seaport. With branch offices in the USA, Russia, Kazakhstan, U.A.E and a globally located group of reselling agents, V-TEC is present in the most important industrial areas worldwide.

ORBIT 10: 1½ - 10” / DN40 - 250 mm
ORBIT 24: 6 - 24” / DN150 - 600 mm
ORIBT 40: 6 - 40” / DN150 - 1000 mm
ORIBT 64: 6 - 64” / DN150 - 1600 mm

Attachment for Conical Seats

The Polir F6 is optionally completed with the V-Tec ‘C’ attachment set for grinding and lapping valves with conical seats in a range from 3/8 - 2½".
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Including the V-TEC orbital mechanical driven grinding and lapping technology

Versatile, universal tool for Gate-, Parallel Slide-, Globe- and Safety valves

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Robust and light weight

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✓ Including the V-TEC orbital mechanical driven grinding and lapping technology
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**ORBIT Series**

- **ORBIT 10**: 1½ - 10” / DN40 - 250 mm
- **ORBIT 24**: 6 - 24” / DN150 - 600 mm
- **ORBIT 40**: 6 - 40” / DN150 - 1000 mm
- **ORBIT 64**: 6 - 64” / DN150 - 1600 mm
Pro Dual Series


The PRO DUAL is a strong stationary grinding and lapping machine for all common types of valves. The ridged column machine is mounted on a strong base structure with tilting table and storage facility for accessories, drive heads, tools and consumables.

- Including the V-TEC orbital mechanical driven grinding and lapping technology
- Strong, stable and universal
- Designed and equipped for the modern valve repair shop
- Suitable for repairing seats of all common Gate-, Parallel Slide-, Check-, Globe- and Safety valves
- Highest material removal rate with the best flatness accuracy

PRO DUAL 10: ¼ - 10” / DN6 - 250 mm
PRO DUAL 16: ¼ - 16” / DN6 - 400 mm
PRO DUAL 20: ¼ - 20” / DN6 - 500 mm
The TITAN 16 is a strong and robust, boring and facing machine for 'in shop' and 'on-site' machining of sealing faces on valves, flanges and other objects.

- Robust, stable and universal working range up to valve size 16”
- Refacing sealing and flange faces
- Recutting grooves for seals and ‘O’-rings

Profile Series

High speed grinding machine for precision machining of flat and conical valve seats, flanges and other sealing faces.

- Robust, stable and universal mounting system
- Precise control and adjustment
- Available grinding cones for conical seats: 30°, 40°, 60°, 75°, 90°

Optic Series

Optical flat lapping and polishing machine for high precision and fine finishing of the sealing faces of (safety) valves and other components.

- The frame mounted ‘open face’ OPTIC is build on a stainless steel construction with a height adjustment and waste tank
- The machine incorporates a fully automatic liquid diamond dispensing system and process timer
- For (safety) valves and universal parts up to 200 mm

Focus Series

The focus hand lapping system enables you to achieve high quality ‘Mirror’ finish against the lowest possible costs. The handy packed composite blocks can be used for components up to a diameter approx of 2½” / 65 mm

- Complete set with necessary lapping paste and lubricant
- Available in three different types; Course, Finishing and Super finish
- Economical set with quality lapping result
Valve Brush Toolkit

High speed rotating brushing set, designed and equipped for removing rust and seal residues.

The brushes have a spreading property for easy cleaning of inaccessible spots. It also prepares any surface for painting or coating. The brush is driven by a powerful air driven hand tool.

- Dedicated tool set for valve maintenance
- Enables instant valve repair with minimum mechanical rework
- Effective and economical valve maintenance

Valve Inspection Set

The INSPECTIONS SETS enable you to inspect all type of constructions which are difficult to reach.

There are two sets available, the first is a basic set with a mirror, holding tools and a light. The second set is a digital camera with a flexible camera fixture. This camera also allows you to save the images or video on your computer.

- Choice of digital or visual inspection
- The digital set enables to file images in your work report records
- Clear views in difficult to reach constructions

Valve Maintenance Kit

The valve maintenance kit is a complete set of hand tools necessary for removing flat gaskets and spindle packing rings from all type of valves.

These tools enable you to retrofit new gaskets and packing rings in the shop and in the field. This is the minimum a valve engineer require for valve maintenance.

- Dedicated tool set for valve maintenance
- Enables instant valve repair with minimum mechanical rework
- Effective and economical valve maintenance
The PRO DUAL is a strong stationary grinding and lapping machine for all common types of valves. It is designed and equipped for the modern valve repair shop. The machine incorporates a fully automatic liquid diamond dispensing with a height adjustment and waste tank. The frame mounted ‘open face’ OPTIC is build on a stainless steel construction for high precision and fine finishing of the sealing faces of (safety) valves and other components.

<table>
<thead>
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<th>Application</th>
<th>Range</th>
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<tr>
<td>POLIR F6</td>
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<td>( \frac{1}{4}'' - 6'' ) DN6 - 150 mm</td>
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<tr>
<td>POLIR C2.5</td>
<td>Globe and Safety Valves conical seats</td>
<td>( \frac{3}{8}'' - 2\frac{1}{2}'' ) DN19 - 65 mm</td>
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<tr>
<td>POLIR C6</td>
<td>Globe and Safety Valves conical seats</td>
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<td>POLIR C12</td>
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<td>POLIR CL3</td>
<td>Lens Rings Flanges to DIN 2696</td>
<td>( \frac{1}{4}'' - 3'' ) DN6 - 80 mm</td>
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<td>POLIR CL8</td>
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<td>4'' - 8'' DN100 - 200 mm</td>
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<td>6'' - 24'' DN150 - 600 mm</td>
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<td>ORBIT 64</td>
<td>Gate, Globe, Parallel Slide, Safety and Check Valves</td>
<td>6'' - 64'' DN150 - 1000 mm</td>
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<tr>
<td>PRO DUAL 10</td>
<td>Gate, Globe, Parallel Slide, Safety and Check Valves</td>
<td>( \frac{1}{4}'' - 10'' ) DN6 - 250 mm</td>
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<td>Gate, Globe, Parallel Slide, Safety and Check Valves</td>
<td>( \frac{1}{4}'' - 16'' ) DN6 - 400 mm</td>
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<tr>
<td>PRO DUAL 20</td>
<td>Gate, Globe, Parallel Slide, Safety and Check Valves</td>
<td>( \frac{1}{4}'' - 20'' ) DN6 - 500 mm</td>
</tr>
<tr>
<td>TITAN</td>
<td>All Valve types</td>
<td>2'' - 16'' DN50 - 400 mm</td>
</tr>
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</tr>
<tr>
<td>OPTIC 15</td>
<td>All Valve Seats, Discs and Nozzles</td>
<td>4( \frac{1}{2}'' ) max. 120 mm max.</td>
</tr>
<tr>
<td>OPTIC 24</td>
<td>All Valve Seats, Discs and Nozzles</td>
<td>6'' max. 150 mm max.</td>
</tr>
<tr>
<td>ULTIMATE 24</td>
<td>All Valve Seats, Discs and Nozzles</td>
<td>10'' max. 240 mm max.</td>
</tr>
<tr>
<td>FOCUS</td>
<td>All Valve Seats, Discs and Nozzles</td>
<td>2( \frac{1}{2}'' ) max. 70 mm max.</td>
</tr>
</tbody>
</table>

Affiliated company Ventil delivers all sorts of test units for testing the integrity and performance of any type of Shut-off-, Control- or Safety valve in the range \( \frac{1}{4}'' - 120'' \) / DN6 - 3000 mm. The Ventil test units are being used by valve manufacturers and repairers in over 100 countries worldwide. Visit the website: [www.ventil.nl](http://www.ventil.nl)
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