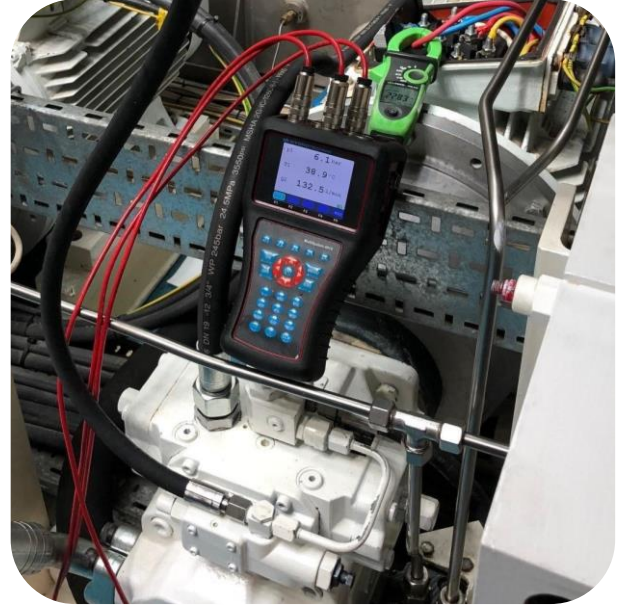


Hydraulics
Fluid power under control



2019 Catalogue



■ About us



■ Mission

Our mission is to support our customers and provide them an effective solution to any need or problem they might encounter related to hydraulic systems with our dedicated and knowledgeable team of engineers and technicians.

■ Vision

To enable our customers to reach higher standards, provide personal fulfilment to our people and share our knowledge and passion for hydraulics and engineering.



■ Company Culture

Blue Hydraulics Limited is a privately-owned limited company with no external financial interest. Culture is the heart of our organisation, we communicate our values such as respect, honesty, loyalty, dedication and mutual support shaping the way members of our organisation think, behave and approach their work. We believe that the human aspect and the passion for engineering tends to be neglected to prioritise financial, at Blue Hydraulics we prioritise human and technical aspects to guarantee our financial success.



Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Blue Hydraulics Ltd
Unit F Aquarius, Kingsway North
Team Valley Trading Estate
Gateshead
NE11 0JH
United Kingdom

Holds Certificate Number:

FS 690827

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

All services associated with hydraulics such as design, equipment manufacture, installation & piping, technical support & service and parts distribution.

For and on behalf of BSI:

Andrew Lounis, BSI Systems Certification Director

Original Registration Date: 2018-08-09
Latest Revision Date: 2019-05-15

Effective Date: 2018-08-09
Expiry Date: 2021-08-08

Page: 1 of 1



...making excellence a habit™

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.

An electronic certificate can be validated at www.bsi.com/bsi-certificates

Information and Contact: BSI, Nelson Court, 2000 Avenue, Watlington, Oxford OX12 8YU, UK. Tel: +44 (0)1235 755200
BSI Assurance (UK) Limited, registered in England under number 1785321, at 389 Chiswick High Road, London W4 4AL, UK.
A Member of the BSI Group of Companies.

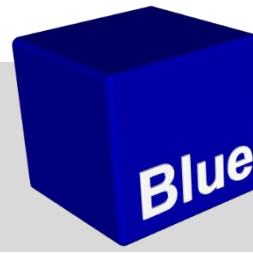
■ Business Management System BMS

Blue Hydraulics activities are supported by our Business Management System which has been certified compliant with ISO 9001:2015 since the early days of the company. Our system has enabled the company growth based on customer satisfaction, continuous improvement, supply chain management and our employees personal development and wellbeing.

■ QHSE Policy

Blue Hydraulics is committed to an incident-free workplace, every day, everywhere. Our performance depends on our ability to continually improve the services we provide to our clients, while protecting the people and minimizing the impact on the environment. We communicate our policies and require an active commitment to QHSE from all our people, customers and contractors for all work activities.

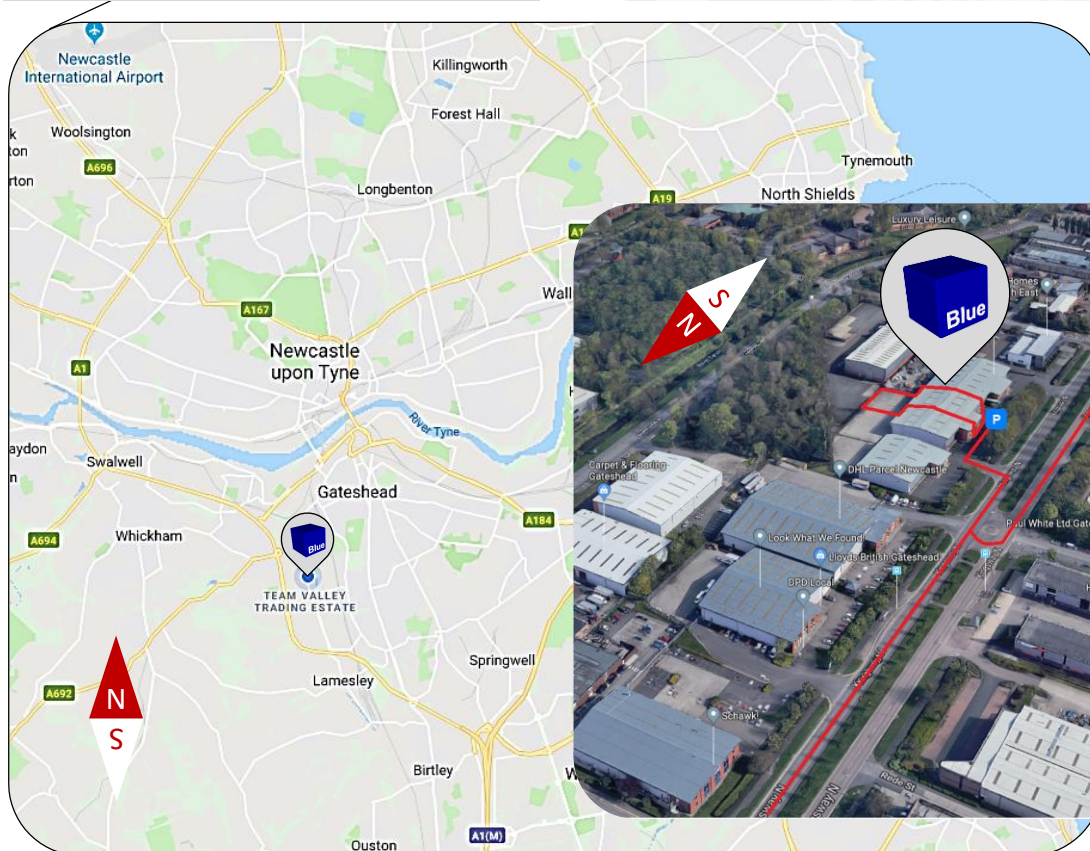
■ Location

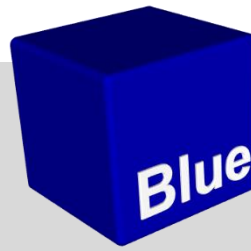


Hydraulics
Fluid power under control



- Blue Hydraulics is based in Gateshead, Team Valley Trading Estate, Kingsway North
- 5 min from **Newcastle**
- 18 min from **NCL International Airport**
- 25 min from **Blyth**
- 40 min from **Darlington**
- 45 min from **Middlesbrough**





Hydraulics
Fluid power under control

■ Products & Services

■ Services

- Design & Consulting
- System Manufacture
- Control & Software
- Bespoke Manifold Manufacture
- Installation & Piping
- Hose Manufacture
- Flushing & Pressure Testing
- Site Technical Support
- Service & Maintenance
- Trade Counter
- Equipment Rental

■ Products

- Bosch Rexroth®
- Tube-Mac® Piping Technologies
- Manuli Hydraulics® Hoses & Fittings
- SUN Hydraulics® Cartridges
- Parker EO2® Technology
- Enerpac® High Pressure Tools & Equipment
- IFM® Electronic Sensors
- AKG® Coolers
- Hy-Pro® Filtration
- O+P® Hose Assembly Machinery

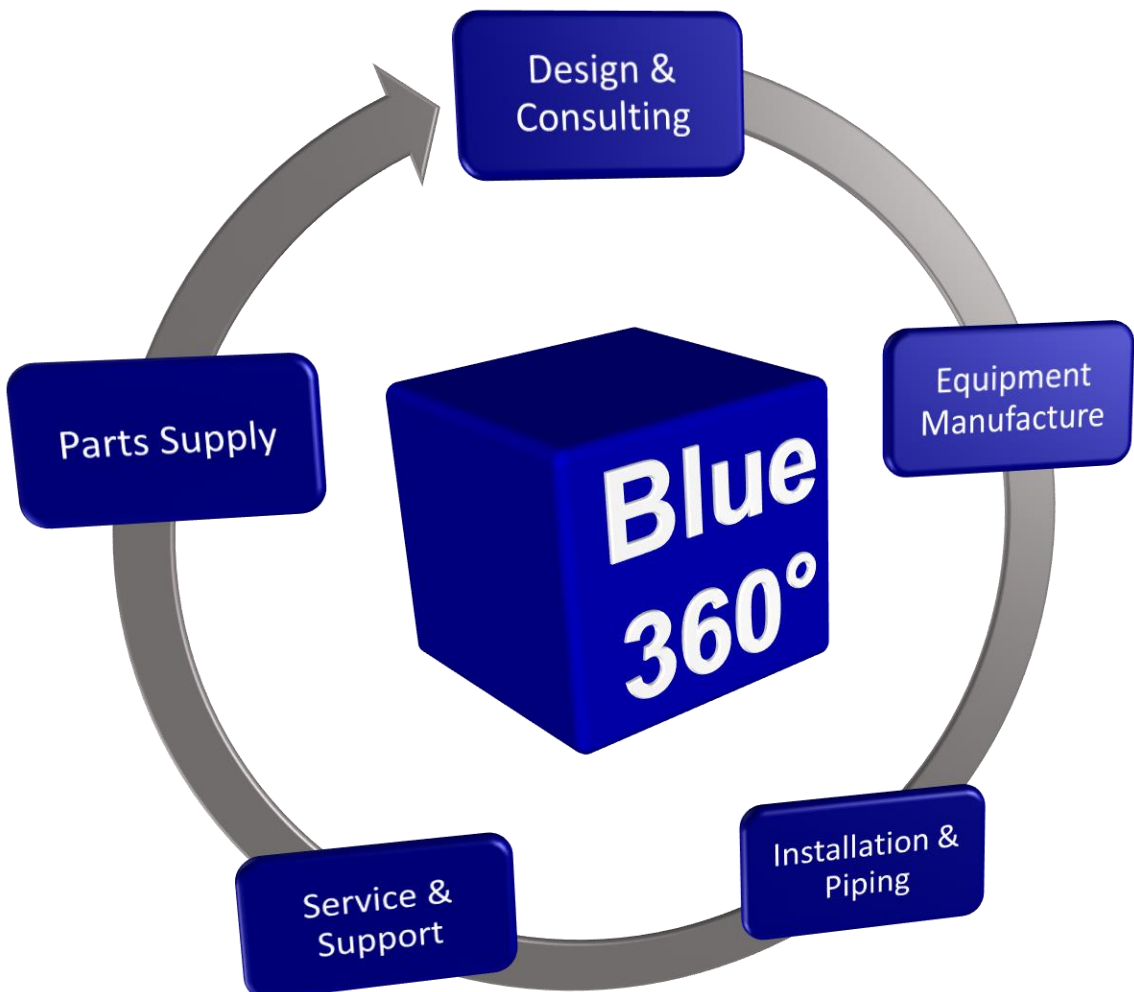
■ Services



We offer our customers the **Blue 360°** solution, a comprehensive solution which covers any of their needs in hydraulics.

Our team of dedicated and knowledgeable hydraulic engineers will respond efficiently to solve any problem and give you quality service.

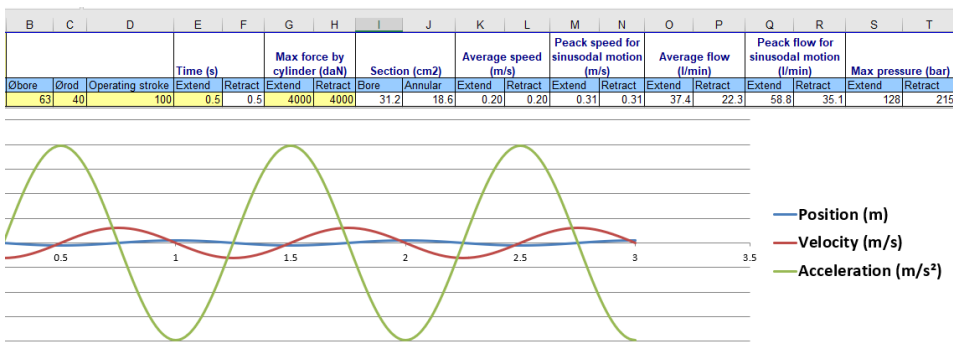
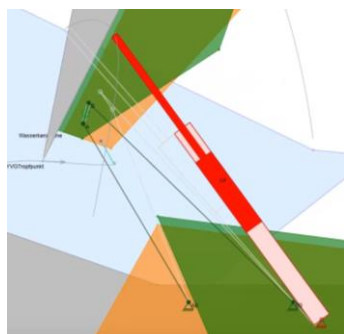
Call us 24/7 for technical support either on site or remotely.



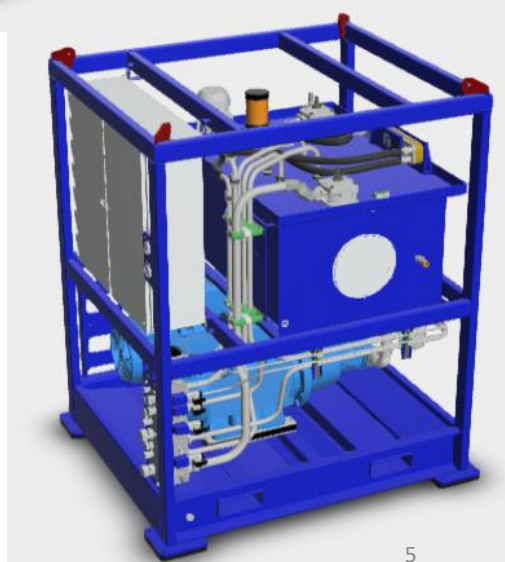
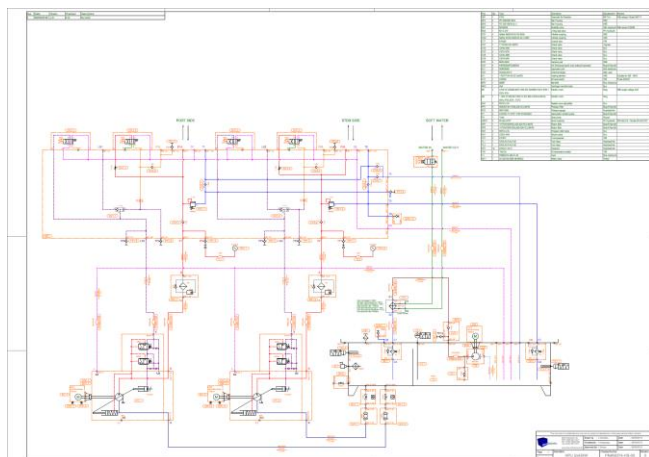
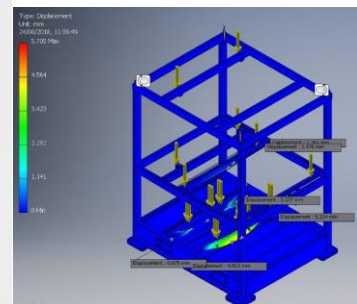
■ Design & Consulting



You have a new design idea? Your design needs hydraulics? Contact us from the first step, we will guide you from the concept stage and through the whole design process to optimise the performances and the cost of your concept.



- Mechanical power, force & speed requirement (Static and dynamic)
- Guidance for actuator selection
- Fluid mechanics calculations
- Mechanical, volumetric and overall efficiency calculations
- Heat dissipation calculations
- Hydraulic schematic & BOM
- Components sizing and selection
- Pipe routing
- 3D CAD
- GA Drawings
- Documentation packs



■ System Manufacture

From our customers design or from ours, we manufacture in house any type of hydraulic system from fabrication to testing.



- Fabrication
- Assembly
- Hydraulic Piping
- Electrical Wiring
- Commissioning & Testing
- Hydraulic Power Units
- Hydraulic Manifolds
- Control Consoles
- Test Rigs



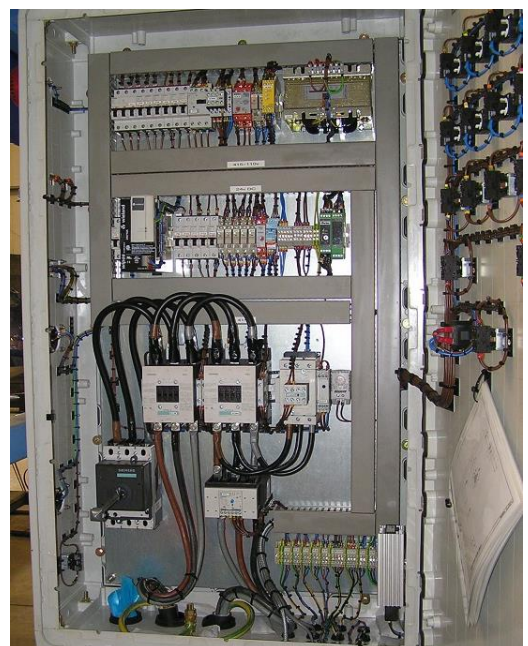
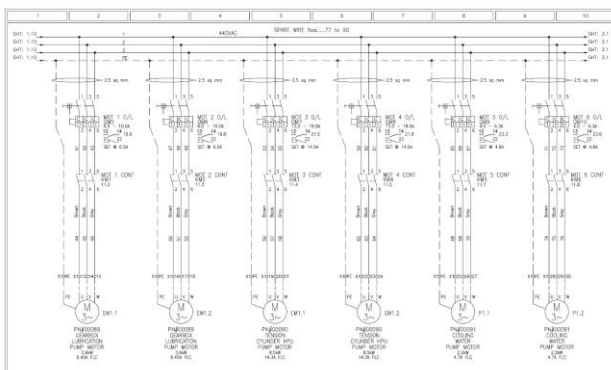
■ Control & Software

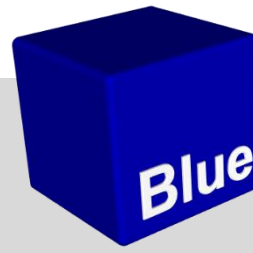
We offer to our customer a full integrated turnkey solution for hydraulic and control systems.

We design and manufacture in house electrical control systems including PLC software programming and servo drive.

Part of the **Blue 360°** solution, we provide services such as design & consulting, panel manufacture, electrical installation & wiring, service & technical support, parts supply.

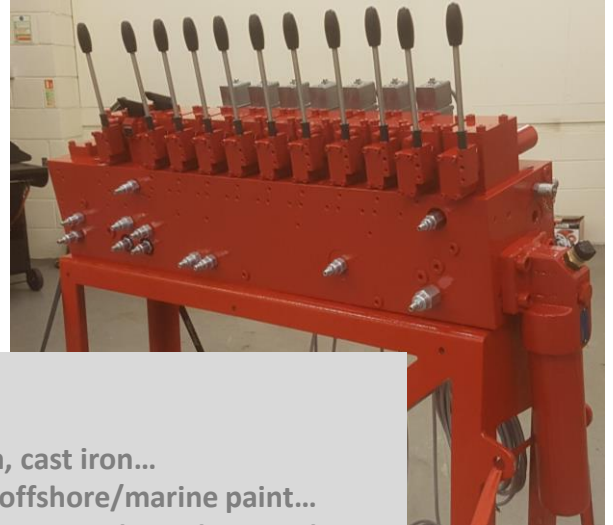
- Electrical diagram
- PLC Software
- FDS Function Design Specification
- Electrical panel manufacture
- Electrical cable installation & wiring
- Commissioning
- Servo drive
- Electro-mechanical cylinder





Blue Hydraulics
Fluid power under control

■ Bespoke Manifold Manufacture



- Bare or fully equipped
- All sizes
- Material: carbon steel, stainless steel, aluminium, cast iron...
- Corrosion protection: nickel plating, zinc plated, offshore/marine paint...
- Components and ports identification: Engraving or riveted stainless steel tags
- Lead time from 4 to 10 weeks

■ Design & Manufacture Process

- Hydraulic Requirements
- Orientation Sketch
- Application

Specifications

For Customer Approval

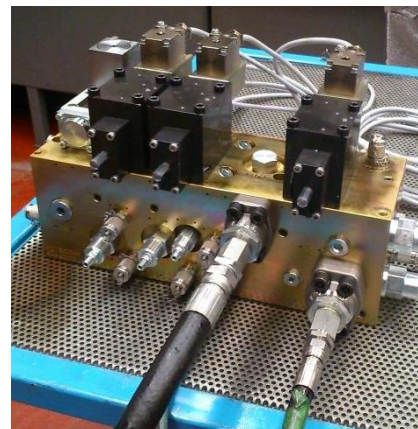
- GA Drawing
- Hydraulic Schematic
- Hydraulic Part List
- 1 to 3weeks

- Machining
- Cleaning
- Quality Control
- Plating (option)
- 2 to 4 weeks

Bare Manifold

Equipped, Tested and Pre-set Manifold

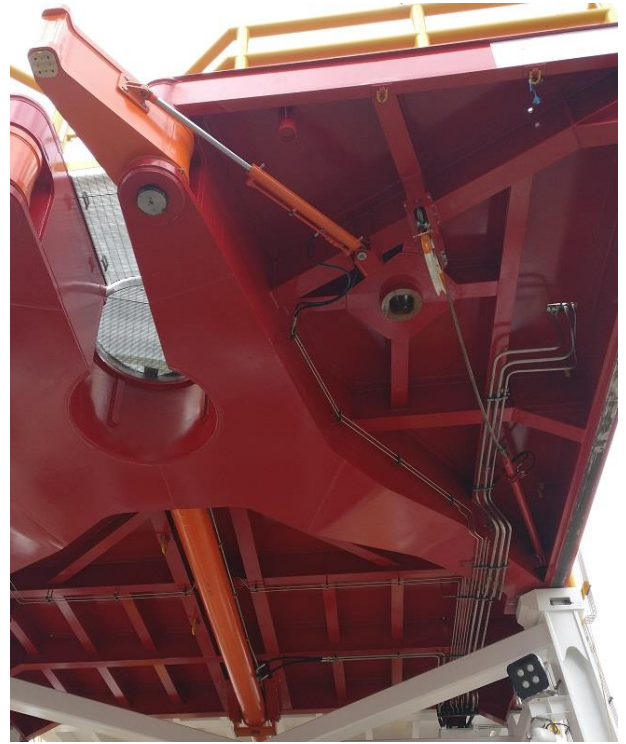
- Valves Outfitting
- Paint (option)
- Testing
- Documentation Pack
- 1 to 3 weeks



■ Installation & Piping

Part of a complete engineering project as separate service, we provide on-site installation and piping solutions for our customers.

- Rigid pipework
- On-site hose manufacture
- System flushing & pressure test
- Welded or weld free solutions
- Carbon steel or stainless steel
- DIN2353 fittings
- JIC 37° fittings
- SAE flanges
- Tube forming e.g. EO2® Form, Walform®



■ Hose Manufacture

From our complete stock range of hydraulic hoses and fittings of all types in carbon steel or stainless steel 316, we manufacture, flush and pressure test hose assemblies whether for emergency breakdown or large projects.

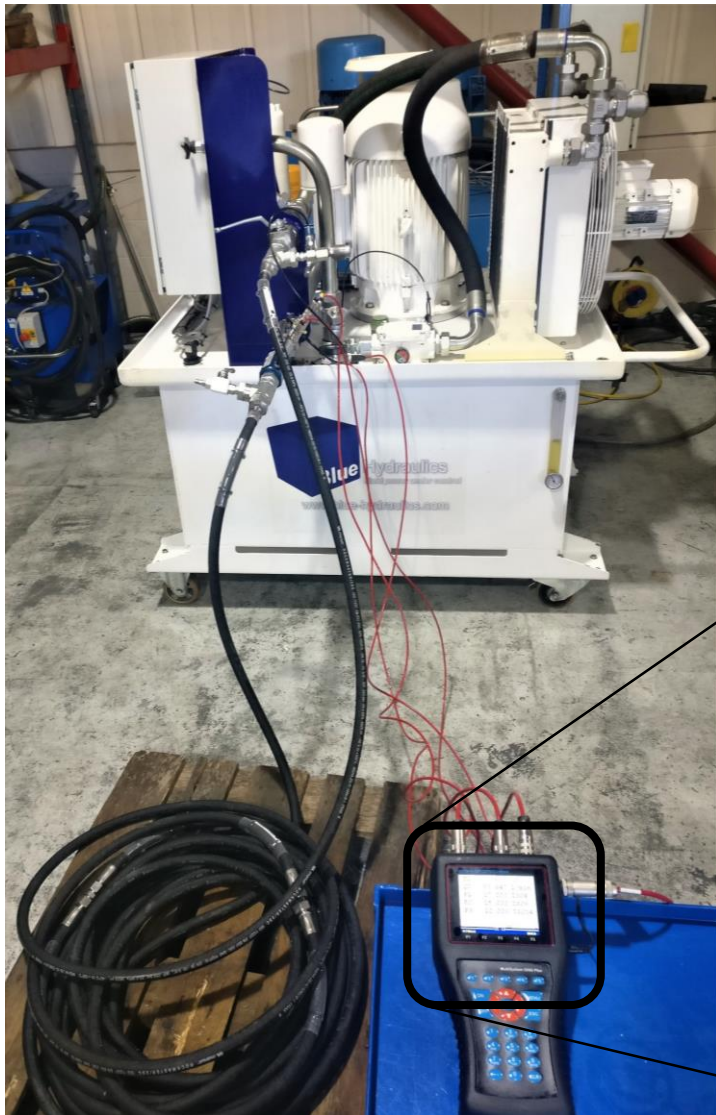


- Emergency breakdown service
- Onsite manufacture and testing
- Flushing and pressure test
- Tagging
- Trade counter
- Inspection Survey
- Hose management system
- Hose register
- Carbon steel or stainless steel 316 fittings
- DIN2353 fittings
- JIC 37° fittings
- SAE flanges
- BSP fittings



■ Flushing & Pressure Testing

We offer flushing and pressure test services for either complete system on site or for hose assemblies and pipe spools in our premises.



- Complete system
- Hose assemblies & rigid pipes only
- Flushing & PT post manufacture
- Water and particles contaminated systems
- Pressure, flow, temperature and contamination monitoring with calibrated equipment
- Report with Reynolds number calculation to guarantee turbulent flow
- Procedures as per ISO, DNV, LR, ABS or any other standards

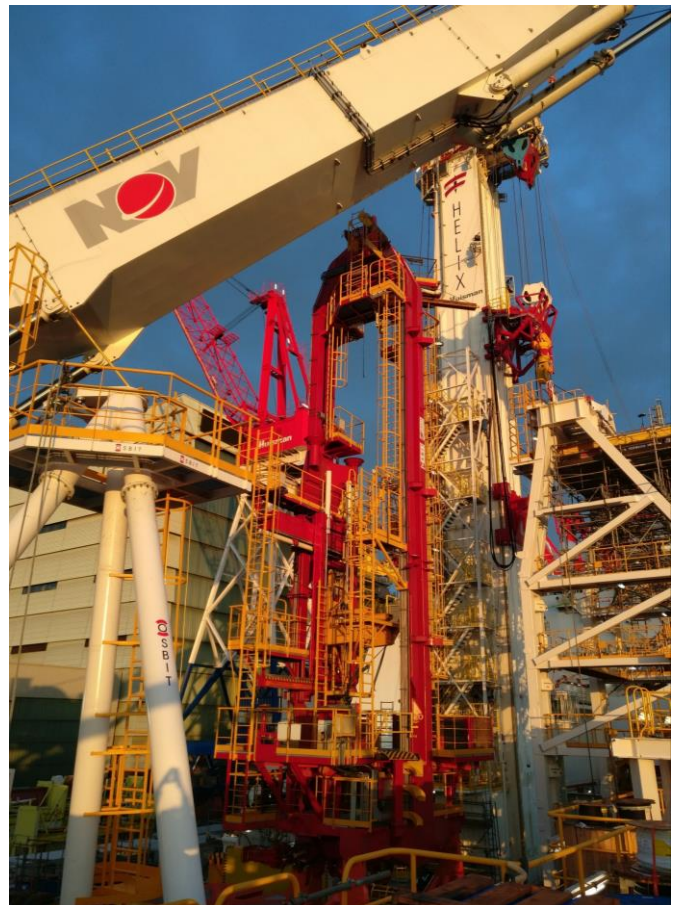


■ Site Technical Support

Our experienced engineers can be mobilised locally or worldwide for any kind of technical support from fault finding and breakdown assistance to commissioning and testing including the mobilisation of rental equipment.



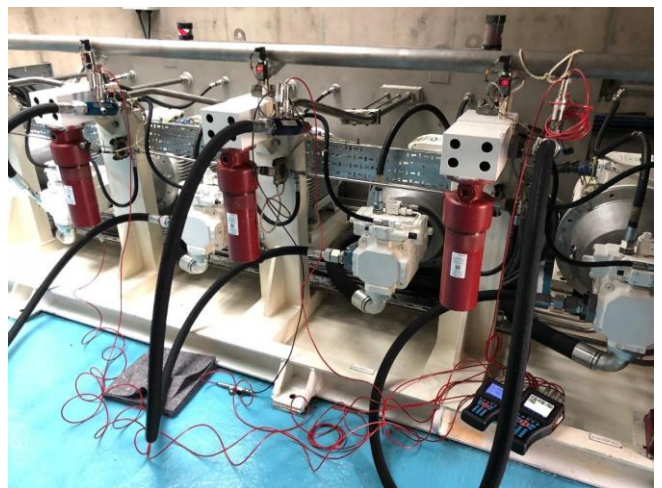
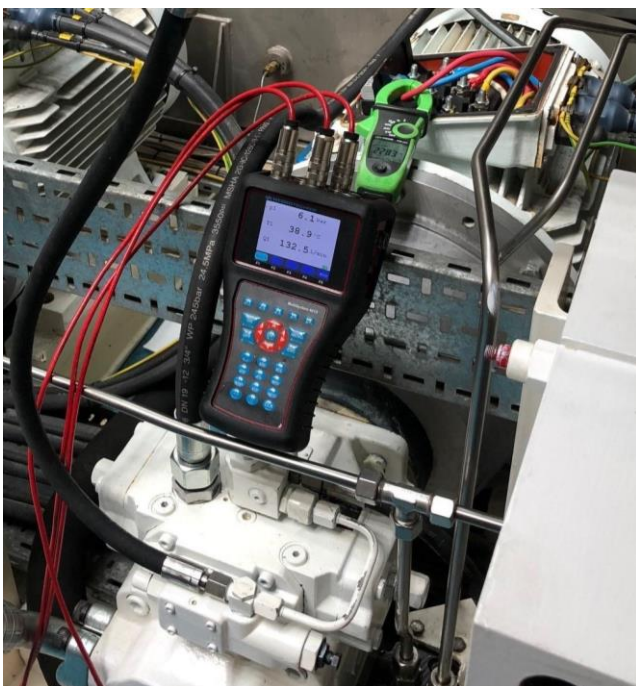
- Onshore and offshore worldwide coverage
- Commissioning and installation support
- Testing and performance monitoring
- Hydraulic equipment rental and test setup
- FAT and SAT (Factory Acceptance Test and Site Acceptance Test)
- Inspection survey
- Fault finding and breakdown assistance



■ Service & Maintenance

We help our customers to improve their equipment reliability, guarantee a minimum down time and reduce their maintenance spending by implementing preventive maintenance plans.

- Maintenance contract
- Planned maintenance
- Routine service
- Machine refurbishment & upgrade
- Pumps, motors and components repair
- Oil sampling
- Consumables replacement (Filter elements, seals, hoses, couplings)
- Pump efficiency test
- Accumulator precharge check
- Leak test
- Oil replacement
- Commissioning



■ Products



■ Products

- Bosch Rexroth®
- Tube-Mac® Piping Technologies
- Manuli Hydraulics® Hoses & Fittings
- SUN Hydraulics® Cartridges
- Parker EO2® Technology
- Enerpac® High Pressure Tools & Equipment
- IFM® Electronic Sensors
- AKG® Coolers
- Hy-Pro® Filtration
- O+P® Hose Assembly Machinery



■ Bosch Rexroth®



Over 150,000 customers worldwide count on Bosch Rexroth for what no one else can offer: The world's most advanced drive, motion and control technologies, all from a single source, backed by industry-specific expertise second to none.

Rexroth
Bosch Group

Authorised Distributor

- Cetop valves
- Filtration
- External gear pumps
- Axial piston pumps
- Vane pumps
- Internal gear pumps
- Accumulators
- Proportional valves
- Logic valves
- ATEX valves



Rexroth
Bosch Group

Authorised Distributor



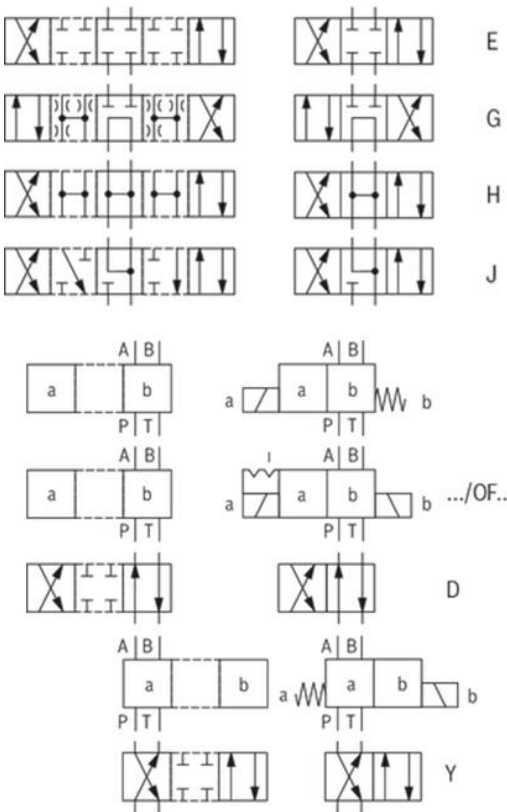
■ Cetop 3 (NG6) Directional Spool Valve

- Maximum operating pressure 350 bar
- Maximum flow (DC) 80 l/min
- Maximum flow (AC) 60 l/min
- 4/3-, 4/2- or 3/2-way version
- High-power solenoid
- Porting pattern according to DIN 24340 form A
- Porting pattern according to ISO 4401-03-02-0-05
- Wet-pin DC or AC solenoids with detachable coil
- Solenoid coil is rotatable by 90°
- The coil can be changed without having to open the pressure-tight chamber
- Electrical connection as individual or central connection
- Optional auxiliary operating device
- Spool position monitoring, optional
- Connector according to DIN EN 175301-803
- Datasheet [RE 23178](#)

Spool Symbols

Code	Part Number	Voltage	Power consumption
R900561286	4WE6H6X/EG24N9K4	24V DC	30W
R900561278	4WE6E6X/EG24N9K4		
R900561282	4WE6G6X/EG24N9K4		
R900561288	4WE6J6X/EG24N9K4		
R900561276	4WE6Y6X/EG24N9K4		
R900561274	4WE6D6X/EG24N9K4		
R900567512	4WE6D6X/OF/EG24N9K4	110V AC 50/60Hz	Holding: 50W Switch-on: 220W
R900906672	4WE6H6X/EW110N9K4		
R900558641	4WE6E6X/EW110N9K4		
R900558642	4WE6G6X/EW110N9K4		
R900551703	4WE6J6X/EW110N9K4		
R900551704	4WE6D6X/EW110N9K4		
R900552321	4WE6D6X/OF/EW110N9K4	230V AC 50/60Hz	Holding: 50W Switch-on: 220W
R900912494	4WE6H6X/EW230N9K4		
R900912492	4WE6E6X/EW230N9K4		
R900912493	4WE6G6X/EW230N9K4		
R900911762	4WE6J6X/EW230N9K4		
R900909559	4WE6D6X/EW230N9K4		
R900915095	4WE6D6X/OF/EW230N9K4		

All the part numbers in the above table are part of "Blue Hydraulics Stock Programme", other products from Bosch Rexroth can be offered on request but may not be available from stock



Rexroth
Bosch Group

Authorised Distributor



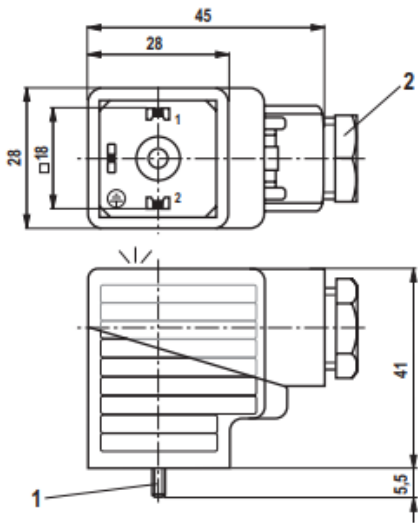
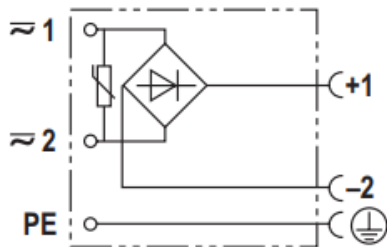
■ Cetop 5 (NG10) Directional Spool Valve

- Maximum operating pressure 350 bar
- Maximum flow 160 l/min
- AC possible with rectifier connector¹⁾
- 4/3-, 4/2- or 3/2-way version
- High-power solenoid
- Porting pattern according to ISO 4401-05-04-0-05
- Wet-pin solenoids with detachable coil
- Solenoid coil is rotatable by 90°
- The coil can be changed without having to open the pressure-tight chamber
- Electrical connection as individual or central connection
- Optional auxiliary operating device
- Spool position monitoring, optional
- Connector according to DIN EN 175301-803
- Datasheet [RE 23340](#)

Code	Part Number	Voltage	Power consumption
R901278762	4WE10H5X/EG24N9K4/M	24V DC	40W
R901278761	4WE10E5X/EG24N9K4/M		
R901278768	4WE10G5X/EG24N9K4/M		
R901278744	4WE10J5X/EG24N9K4/M		
R901278769	4WE10Y5X/EG24N9K4/M		
R901278760	4WE10D5X/EG24N9K4/M		
R901324452	4WE10D5X/EG96N9K4/M	96V DC AC possible with rectifier connector ¹⁾	
R901324449	4WE10E5X/EG96N9K4/M		
R901324446	4WE10H5X/EG96N9K4/M		
R901324445	4WE10J5X/EG96N9K4/M		
R901336181	4WE10D5X/EG205N9K4/M	205V DC AC possible with rectifier connector ¹⁾	
R901336183	4WE10E5X/EG205N9K4/M		
R901327207	4WE10J5X/EG205N9K4/M		
R901258093	24V Coil for WE10 5X	24V DC	
R901267184	96V Coil for WE10 5X	96V DC	
R901267190	205V Coil for WE10 5X	205V DC	
R901017025	¹⁾ Rectifier Connector	12 ... 240 V	

All the part numbers in the above table are part of "Blue Hydraulics Stock Programme", other products from Bosch Rexroth can be offered on request but may not be available from stock

¹⁾Rectifier connector



- 1 M3 mounting screw, tightening torque $M_A = 0.5 \text{ Nm}$
 2 M16 x 1.5 line fitting, tightening torque $M_A = 1.5 \dots 2.5 \text{ Nm}$ (5 ... 10 mm)

Rexroth
Bosch Group

Authorised Distributor



■ **Directional Poppet Valve**

- Maximum operating pressure 350 bar
- Direct operated directional seat valve with solenoid actuation
- Wet-pin DC solenoids with detachable coil (AC voltage possible by means of a rectifier R901017025)
- Solenoid coil is rotatable by 90°
- The coil can be changed without having to open the pressure-tight chamber
- Electrical connection as individual connection
- With concealed manual override, optional
- Inductive position switch (contactless), see RE 24830
- Connector according to DIN EN 175301-803

■ **Cetop 3 (NG6)**

- Maximum flow 25 l/min
- Porting pattern according to DIN 24340 form A
- Porting pattern according to ISO 4401-03-02-0-05
- Datasheet [RE 22049](#)

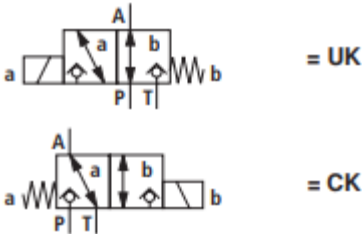
■ **Cetop 5 (NG10)**

- Maximum flow 40 l/min
- Porting pattern according to ISO 4401-05-04-0-05
- Datasheet [RE 22045](#)

Code	Part Number	Voltage	Power consumption
R900052392	M-3SED6CK1X/350CG24N9K4	24V DC	30W
R900052621	M-3SED6UK1X/350CG24N9K4		
R900086685	M-3SED10CK1X/350CG24N9K4		
R900051053	M-3SED10UK1X/350CG24N9K4		

All the part numbers in the above table are part of "Blue Hydraulics Stock Programme", other products from Bosch Rexroth can be offered on request but may not be available from stock

Symbols



Rexroth
Bosch Group

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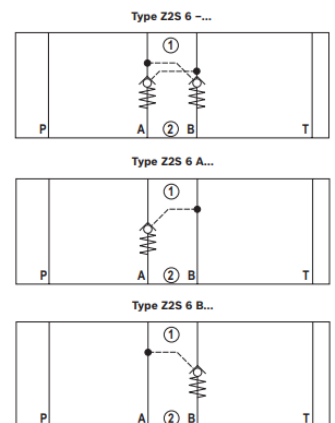
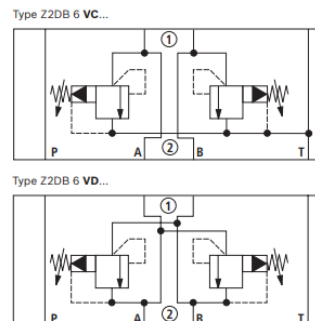
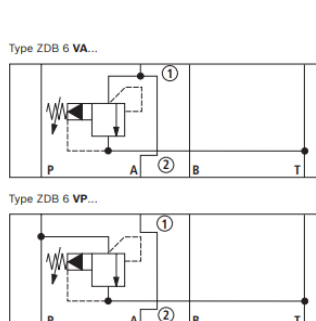
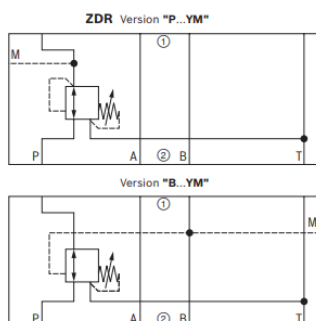
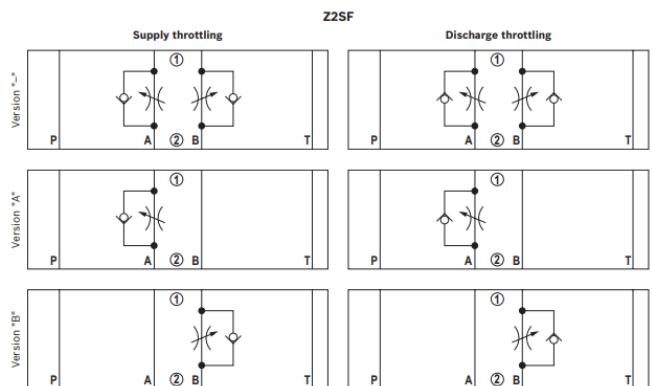


- **Sandwich Valve Cetop 3 (NG6)**
 - Porting pattern according to DIN 24340 form A
 - Porting pattern according to ISO 4401-03-02-0-05
- **Pilot Operated Check Valve**
 - Maximum operating pressure 315 bar
 - Maximum flow 60 l/min
- **Throttle Valve**
 - Maximum operating pressure 315 bar
 - Maximum flow 80 l/min
- **Pressure Relief Valve**
 - Maximum operating pressure 350 bar
 - Maximum flow 60 l/min
- **Pressure Reducing Valve**
 - Maximum operating pressure 350 bar
 - Maximum flow 50 l/min

Code	Part Number	Datasheet
R900347495	Z2S6-1-6X	RE 21548
R900347498	Z2S6A1-6X	
R900347501	Z2S6B1-6X	
R900481624	Z2FS6-2-4X/2QV	RE 27506
R900439389	Z2FS6A2-4X/2QV	
R900440565	Z2FS6B2-4X/2QV	
R900409898	ZDB6VP2-4X/315V	RE 25751
R900409893	ZDB6VA2-4X/315V	
R900411318	Z2DB6VC2-4X/315V	
R900411357	Z2DB6VD2-4X/315V	RE 26570
R900483785	ZDR6DP2-4X/25YM	
R900483786	ZDR6DP2-4X/75YM	
R900483787	ZDR6DP2-4X/150YM	
R900483788	ZDR6DP2-4X/210YM	
R900431771	ZDR6DB2-4X/75YM	

All the part numbers in the above table are part of "Blue Hydraulics Stock Programme", other products from Bosch Rexroth can be offered on request but may not be available from stock

Symbols (① = component side, ② = plate side)



Rexroth
Bosch Group

Authorised Distributor



The filter element with PURE POWER consists of six highly engineered layers so the fluid is filtered in three successively finer fiberglass layers.

The layers are designed to work together to achieve a high retention rate and dirt holding capacity, combined with a low clean pressure drop. This increased performance is achieved by three effective micro glass layers as standard in combination with an electric conductive layer and a supporting mesh. The filter material is pleated and wrapped cylindrically round the support tube and glued so it is impermeable to liquid along the material seam and top and bottom end caps.



■ **Return Filter**

- Maximum operating pressure 10 bar
- Size as per DIN 24550: 0040 to 1000
- Other sizes: 2000, 2500
- BSP ISO 228 connections or SAE flange 3,000 psi from 1 1/4"
- 5 bar clogging indicator and 7 bar by-pass
- Cyclone-Effect
- PURE POWER up to 50% more particles
- conductive layer reducing the risk of electrostatic charge and discharge
- Datasheet [RE 51422](#)



① **Supporting mesh**

Supporting mesh is used to protect filter material on the inlet flow



② **Pre-filter**

Micro glass-pre filter to relieve the intermediate and main filter regarding of dirt holding capacity



③ **Intermediate-filter**

Micro glass-intermediate filter for supporting the main filter



④ **Main-filter**

Micro glass-main filter for fine particle filtration and ensuring the nominal filter fineness



⑤ **Electrically conductive layer**

Protective layer – antistatic finished, reduces the risk of electrostatically charge and discharge in the filter system



⑥ **Supporting mesh**

Supporting mesh is used for filter material protection on the downstream side



Code	Part Number	Connection	10µ Element	6µ Element	3µ Element
R928056574	10TEN0063-00000A00-V2,2-M-R4	G1"	R928005855	R928005854	R928005853
R928025694	10TEN0100-00000A00-V2,2-M-R4	G1"	R928005873	R928005872	R928005871
R928057406	10TEN0160-00000A00-V2,2-M-R5	G1 1/4"	R928005891	R928005890	R928005889
R928047638	10TEN0250-00000A00-V2,2-M-R6	G1 1/2"	R928005927	R928005926	R928005925
R928057407	10TEN0400-00000A00-V2,2-M-S8	2" SAE3k	R928005963	R928005962	R928005961
R928047639	10TEN0630-00000A00-V2,2-M-S9	2 1/2" SAE3k	R928005999	R928005998	R928005997
R928057408	10TEN1000-00000A00-V2,2-M-S10	3" SAE3k	R928006035	R928006034	R928006033
R928057409	10TE2000-00000A00-V2,2-M-S12	4" SAE3k	R928040797	R928048158	R928041312

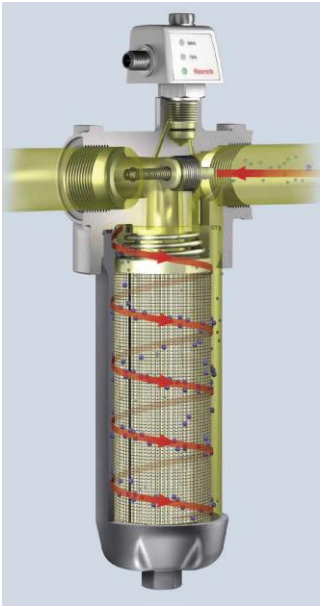
All the part numbers in the above table are part of "Blue Hydraulics Stock Programme", other products from Bosch Rexroth can be offered on request but may not be available from stock

Rexroth
Bosch Group

Authorised Distributor



With Cyclone-Effect, the fluid entering the filter head is directed away from the element and downward imparting a helical flow around the element and the fluid is evenly distributed over the entire surface of the filter media. This helical flow causes heavier particles to move away from the filter element toward the filter bowl. These heavier particles are collected on the bottom of the filter bowl.



- **Pressure Filter**
- Maximum operating pressure 350 bar
 - Size as per DIN 24550: 0040 to 1000
 - Other sizes: 0130, 0150
 - BSP ISO 228 connections or SAE flange 6,000 psi from 1 ½"
 - 5 bar clogging indicator and 7 bar by-pass
 - Cyclone-Effect
 - PURE POWER up to 50% more particles
 - conductive layer reducing the risk of electrostatic charge and discharge
 - Datasheet [RE 51422](#)

Code	Part Number	Connection	10µ Element	6µ Element	3µ Element
R928054282	350LEN0063-00000A00-V5,0-M-R4	G1"	R928006701	R928006700	R928006699
R928054283	350LEN0100-00000A00-V5,0-M-R4	G1"	R928006755	R928006754	R928006753
R928054279	350LE0130-00000A00-V5,0-M-R5	G1 1/4"	R928022276	R928022275	R928022274
R928054280	350LE0150-00000A00-V5,0-M-R5	G1 1/4"	R928022285	R928022284	R928022283
R928054284	350LEN0160-00000A00-V5,0-M-R6	G1 1/2"	R928006809	R928006808	R928006807
R928054285	350LEN0250-00000A00-V5,0-M-R6	G1 1/2"	R928006863	R928006862	R928006861
R928057410	350LEN0400-00000A00-V5,0-M-S6	1 1/2" SAE6k	R928006917	R928006916	R928006915
R928057411	350LEN0630-00000A00-V5,0-M-S8	2" SAE6k	R928006971	R928006970	R928006969

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- **External Gear Pump**
 - Fixed displacement
 - Continuous pressure up to 250 bar
 - Intermittent pressure up to 280 bar
 - Long service life
 - Datasheet [RE 10089](#)



Code	Part Number	Displacement (cm³)	Continuous Pressure (bar)	Intermittent Pressure (bar)	Peak Pressure (bar)
0510225022	AZPF-12/004RH030KB	4	250	280	300
0510325025	AZPF-12/005RH030KB	5.5			
0510425043	AZPF-12/008RH030KB	8			
0510525074	AZPF-12/011RH030KB	11			
0510625075	AZPF-12/016RH030KB	16	210	230	250
0510725112	AZPF-12/022RH030KB	22			

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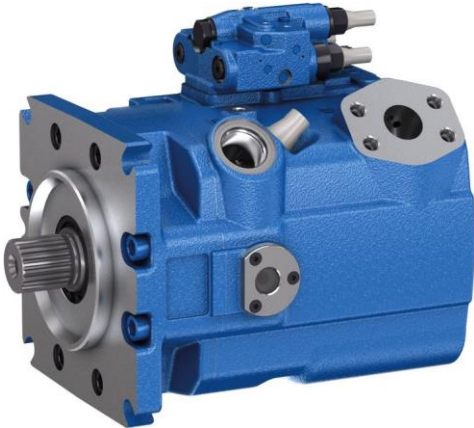
- **Axial Piston Pump A10VSO**
 - Variable displacement
 - Continuous pressure up to 280 bar
 - Intermittent pressure up to 350 bar
 - Pressure control
 - Differential pressure control (Load sensing)
 - Datasheet [RE 92711](#)

Code	Part Number	Displacement (cm³)	Continuous Pressure (bar)	Peak Pressure (bar)
R910991846	A10VSO 18 DFR1 31/RVPA12N00	18	280	350
R910916805	A10VSO 28 DFR1 31/RVPA12N00	28		
R910967365	A10VSO 45 DFR1 31/RVPA12N00	45		
R902473184	A10VSO 71 DFR1 31/RVPA42N00	71		
R910920847	A10VSO 100 DFR1 31/RVPA12N00	100		
R910945253	A10VSO 140 DFR1 31/RVPB12N00	140		

All the part numbers in the above table are part of “Blue Hydraulics Stock Programme”, other products from Bosch Rexroth can be offered on request but may not be available from stock

Rexroth
Bosch Group

Authorised Distributor



■ **Axial Piston Pump A15VSO**

- Variable displacement
- Continuous pressure up to 350 bar
- Intermittent pressure up to 420 bar
- Pressure control
- Differential pressure control (Load sensing)
- Power control
- Low noise
- Compact design
- High efficiency
- Datasheet series 10 [RE 92800](#)
- Datasheet series 11 [RE 92801](#)
- Charge pump option from 145cm³
- Easy controller conversion, see options below

■ **Controller Options**

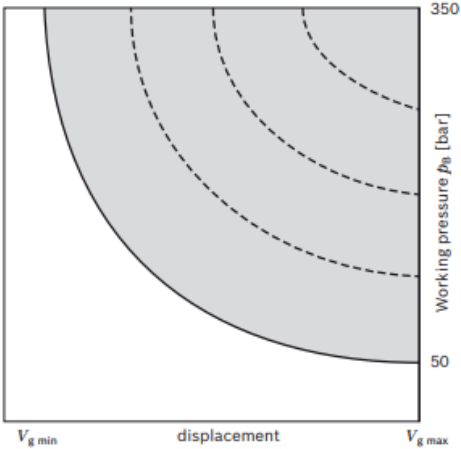
- Power control with electric-proportional override
- Summation power control
- Pressure control for parallel operation
- Pressure remote control
- Electric-proportional stroke control

Code	Part Number	Displacement (cm ³)	Continuous Pressure (bar)	Peak Pressure (bar)
R902564939	A15VSO110LRDRS0A0V/11MRVD4A1EU0000-0	110	350	420
R902564937	A15VSO145LRDRS0A0V/11MRVD4A2PU0000-0	145		
R902564935	A15VSO175LRDRS0A0V/11MRVE4A2PU0000-0	175		
R902564933	A15VSO210LRDRS0A0V/11MRVE4A2PU0000-0	210		
R902564931	A15VSO280LRDRS0A0V/11MRVE4A4PU0000-0	280		

All the part numbers in the above table are part of “Blue Hydraulics Stock Programme”, other products from Bosch Rexroth can be offered on request but may not be available from stock

Power Minimum Setting

Size	Rotational speed (rpm)		
	1000	1500	1800
	Minimum adjustable drive power [kW] (at 50 bar beginning of control)		
110	11	17	20
145	14	21	25
175	17	25	30
210	20	30	36
280	26	39	47

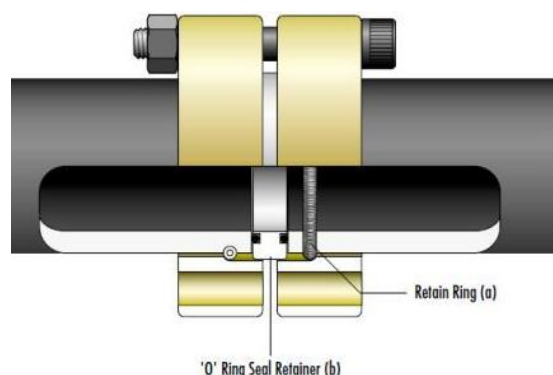
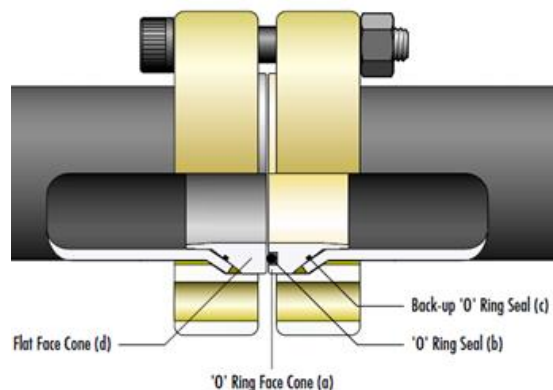
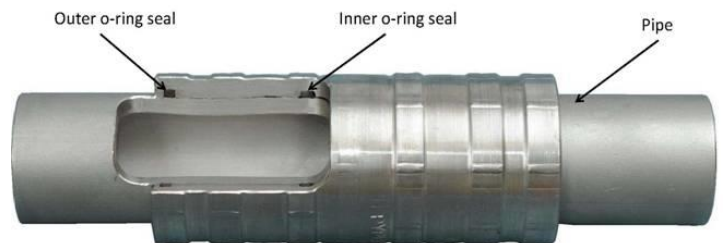


■ Tube-Mac® Piping Technologies

Tube-Mac® utilizes technologically advanced non-welded 37° flare and retain ring flanges and PYPLOK® connectors as a more cost effective alternative to welded piping systems. In today's world, skilled high pressure welders are becoming more difficult to find, especially in remote parts of the world. Cleanliness and environmental issues are becoming a major concern in industry. There is absolutely no valid reason that piping systems should be installed in the same manner they were 50 years ago, with high labour costs and inadequate cleanliness practices.



- **Weld Free Piping Solutions**
 - TM 37° Flare
 - TM Retain Ring
 - Pyplok®
- **Equipment Rental**
- **Approval by Certification Companies**



Manuli Hydraulics®



- Manuli Rockmaster range provides increased performance and durability, whilst still retaining a competitive pricing policy.
- Benefits:
 - Suitable for a range of scenarios including open pit and underground mining, marine equipment and tough hydraulics
 - Fully integrated with Manuli's extensive range of fittings
 - Flame resistance to a wide range of international standards
 - Anti-static and anti-toxic cover compounds
 - Exceptionally robust hose structure
 - High ozone and weather resistance
 - Superior abrasion resistance
 - High temperature resistance
 - Safe and reliable

Part number	Size	Max WP (bar)	Bend Radius (mm)	O.D. (mm)	Weight (g/m)
ROCKMASTER/2SN DN 6	1/4"	400	50	13.1	365
ROCKMASTER/2SN DN 10	3/8"	350	70	16.8	530
ROCKMASTER/2SN DN 12	1/2"	350	89	20.3	650
ROCKMASTER/2SC DN 16	5/8"	250	90	23.6	620
ROCKMASTER/4SP DN 16	5/8"	380	200	27.6	1080
ROCKMASTER/2SC DN 19	3/4"	245	120	27.6	790
ROCKMASTER/4SP DN 19	3/4"	380	240	31.7	1450
ROCKMASTER/2SC DN 25	1"	210	150	35.2	1180
ROCKMASTER/4SH DN 25	1"	385	220	38.1	2040
ROCKMASTER/2SC DN 31	1 1/4"	140	250	43.6	1550
ROCKMASTER/4SH DN 31	1 1/4"	350	420	45.0	2410
ROCKMASTER/15 DN 31	1 1/4"	420	267	49.5	3660
ROCKMASTER/2SC DN 38	1 1/2"	100	300	50.7	1880
ROCKMASTER/15 DN 38	1 1/2"	420	315	57.5	4700
ROCKMASTER/2SC DN 51	2"	90	400	63.4	2430

All the hoses in the above table are part of "Blue Hydraulics Stock Programme", other products from Manuli Hydraulics can be offered on request but may not be available from stock

Type	Applicable Specs	Type Approvals
2SN	Exceed EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT	ABS; BV; DNV-GL; LR; DNV-GL MED; FRAS; CU-TR; MSHA; RINA ; B; NK; MA; DIN 5510-2
2SC*	Exceed EN 857 2SC; ISO 11237 2SC; SAE 100 R16	ABS; BV; DNV-GL; LR; CU-TR; MA; MSHA; RINA; B; FRAS; CCS
4SP	Exceed EN 856 4SP; ISO 3862 4SP	ABS; BV; DNV-GL; LR; DNV-GL (MED); FRAS; CUTR; MA; MSHA; RINA; B; NK; DB (EN 45545-2)
4SH	Exceed EN 856 4SH; ISO 3862 4SH	ABS; BV; DNV-GL; LR; DNV-GL (MED); FRAS; CUTR; MA; MSHA; B; RINA; NK
R15	Exceed SAE 100 R15; ISO 3862 R15	ABS; BV; DNV-GL; LR; BV (MED); FRAS; CU-TR; MA; MSHA; B

*Vacuum resistance with SAE 100 R4 performances approved

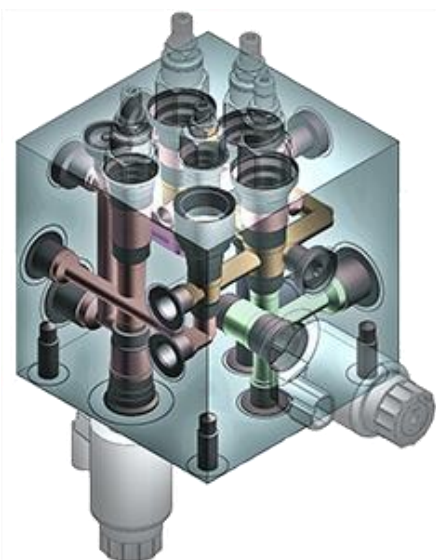
■ SUN Hydraulics®



Sun hydraulics offers a wide range of hydraulic cartridges and manifolds with various options and feature to cover most of the hydraulic requirements.



- Valve types:
 - Pressure control
 - Flow control
 - Loading holding
 - Directional
 - Solenoid operated
 - Proportional
 - Logic Element
- Manifold types:
 - Line mount
 - Sandwich
 - Motor mount
 - Sub plate
 - Customised
- Accessories & options:
 - Atex solenoid
 - On board electronic
 - Stainless steel 316
 - Etc.



■ Parker EO2® Technology

The flareless bite type fitting was pioneered by Ermeto in Germany in the early 1930's. When Parker Hannifin acquired Ermeto, it introduced the EO fittings to the US. Today, the EO fittings are the most widely used bite type fittings in the world.

As a part of Parker Ermeto's New Generation fittings, the Dry Technology EO-2 Plus Concept proven worldwide has been further developed. EO2-Plus means maximum pressure capability, as well as a new chromium6-free surface with significantly higher corrosion resistance, and greatly reduced tightening torques for larger sized fittings.

EO2-FORM is the new high pressure formed tube Generation of the Tube Fittings Division Europe. As with EO2-Plus, it is designed in to eliminate leakage in all fluid systems, by using elastomeric sealing systems.



- DIN2353 (ISO 8434-1) fittings L and S series
- EO2-Form for 316 Stainless Steel
- EO2-Plus for Carbon Steel
- Nominal pressure between 250 and 420bar (up to 800bar for small diameters)
- Pipe diameter from 6 to 42mm
- Sealing with elastomeric seal bonded to a steel ring



■ Enerpac®



Over the decades Enerpac has developed an unparalleled range of hydraulic tools for thousands of applications, in virtually every industry.

ENERPAC®



- Cylinders and jacks
- Pumps
- Bolting tools
- Presses
- Pullers
- Cutters
- Spreaders
- Punches
- Heavy lifting technology
- Components and accessories
- Custom products/projects



■ IFM® Electronic Sensors



IFM offers high quality and high performance electronic sensors and accessories for all type of industries.



- Pressure sensors
- Level sensors
- Temperature sensors
- Flow sensors
- Oil particle counter
- Oil humidity sensor
- Multifunctional analogue display
- Proximity sensors



■ AKG® Coolers



Leading supplier of technically advanced, high performance cooling systems.

- AKG Line A – 3 phase AC motor
- AKG Line D – 12/24V DC motor
- AKG Line H – Hydraulic motor



AKG-Line A



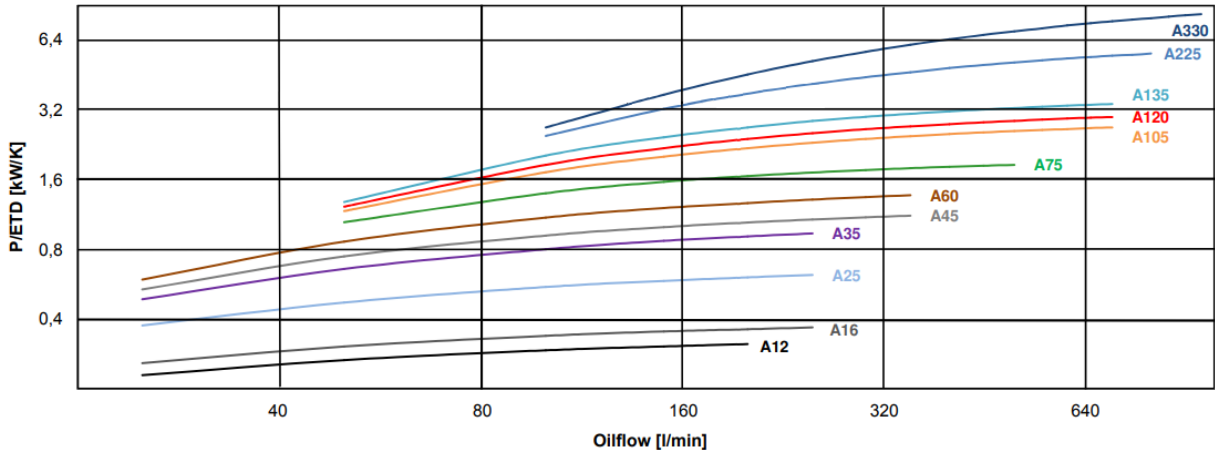
AKG-Line D



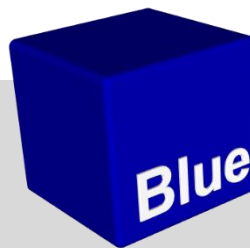
AKG-Line H

Model Size	Voltage (V)	Motor (kW)	Nominal Speed (rpm @ 50Hz)	Noise Level* (dB (A), 1m)	Net Weight* (kg)	Volume* (l)	Working Pressure (bar)
A12	230/400	0.37	3000	80	20	2.3	26
A16	230/400	0.37	3000	83	24	3.5	26
A25	230/400	0.55	1500	81	32	4.5	26
A35	230/400	0.75	1500	80	43	5	26
A45	230/400	0.75	1500	81	60	7.5	26
A60	230/400	0.75	1500	83	69	9	26
A75	230/400	0.75	1500	82	81	13.5	26
A105	230/400	2.2	1500	80	100	15	26
A120	230/400	2.2	1500	86	128	21	26
A135	230/400	2.2	1500	88	148	26	17
A225	400/690	5.5	1500	94	217	37	17
A330	400/690	11	1500	98	343	51	17

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*Approx.



■ Hy-Pro® Filtration



Hydraulics
Fluid power under control



Hy-Pro provides solutions to combat all type of fluid contamination such as particles, water or varnish.

- VUD - Vac-U-Dry Vacuum Dehydrator
- V1 - Compact VUD Vacuum Dehydrator
- TMR-N₂ - Total Moisture Removal Nitrogen
- TMR-Air - Total Moisture Removal Air
- SVR - Soluble Varnish Removal
- Off-Line Filtration
- Diesel Filtration

V1



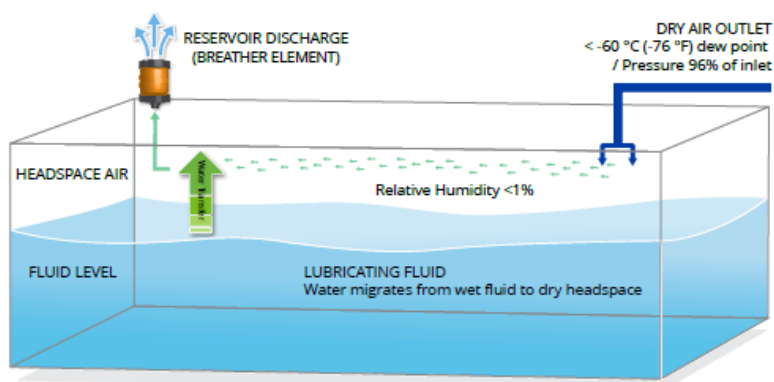
VUD



SVR™



TMR™-Air Conditioned Reservoir



COMPRESSED AIR IN
80 psi (0.55 MPa) / 0.4 - 1.6 SCFM (11 - 44 LPM)

DRY AIR OUTLET
< -60 °C (-76 °F) dew point
/ Pressure 96% of inlet

TMR™-N₂
TMR™-Air



■ Hy-Pro® Filtration

■ VUD Vac-U-Dry Vacuum Dehydrator

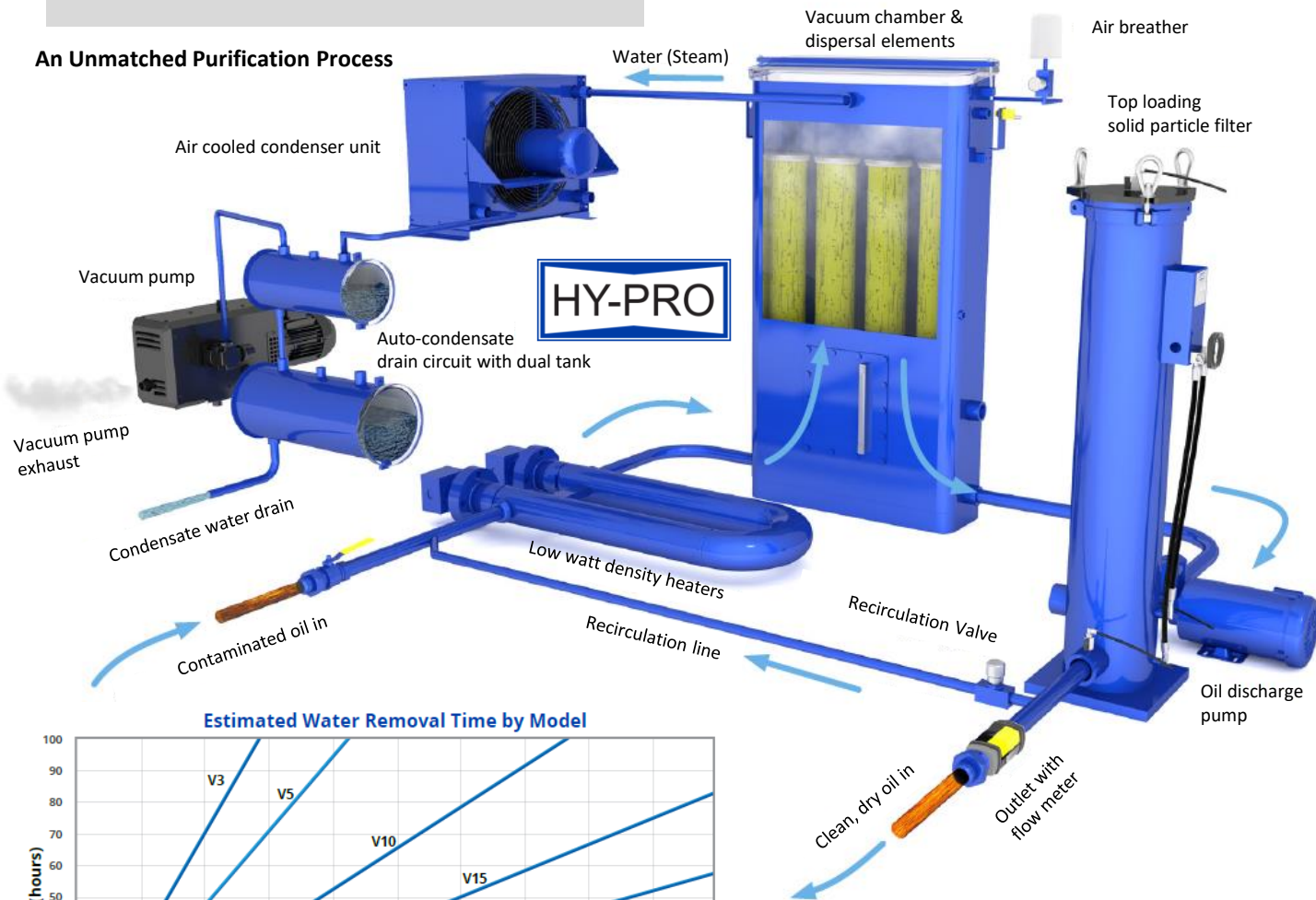
- Viscosity specific dispersal elements
- Fin tube low watt density heaters
- Oversized particle filter
- Adjustable recirculation line
- Auto phase detection and reversal
- Programmable thermostat
- Proprietary vacuum chamber level control
- Foam sensor and auto-drain
- Unlimited option e.g. particle monitor, ATEX version, PLC touch screen, phosphate ester or skydrol, variable speed motor, etc.

How it works?

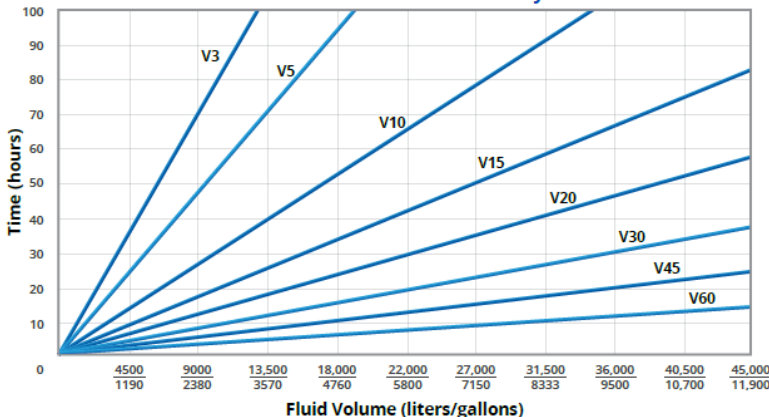
Contaminated oil is drawn into the Vac-U-Dry purifier by a high output vacuum pump. The oil passes through the low watt density heater where heated to optimum temperature for the dehydration process (66°C). The oil enters the vacuum chamber passing through specially design dispersal elements which create a thin film of oil that is exposed to vacuum. The water is vaporized and then drawn into the condenser where it liquifies and drains into the condensate tank.

The dehydrated oil flows to the bottom of the vacuum chamber and is removed by the discharge pump where it is pumped through the particle filter and return to the system. The recirculating line helps the Vac-U-Dry reach optimum temperature in cold start situations and can be used to throttle machine inlet and outlet flow. From here, your oil can either be recirculated for additional temperature and contamination control or returned to your reservoir or equipment where it will operate more efficiently than ever.

An Unmatched Purification Process



Estimated Water Removal Time by Model



No other technology removes water faster or more safely with less chance of foaming than the Hy-Pro VUD. The graph here represents the estimated time required per model to remove water from 5000 ppm (0.5%) down to 150ppm (0.015%) for increasing reservoir sizes.

■ O+P® Hose Assembly Machinery



- Crimping
- Cutting
- Skiving
- Filtering
- Washing
- Testing
- Accessories



O+P® offers a comprehensive range of hydraulic hose and tube processing equipment.

