



### **EXCLUSIVE DISTRIBUTOR FOR ITALY**

**Product Overview** 



### **HANSA-TMP** Innovation & Technology in Hydraulic Systems

HANSA-TMP has been selected as official distributor by the major world players in the hydraulic field. Our market is expanding locally and globally thanks to the expertise acquired during the past decades; we are able to find the best fit for the most difficult applications. A team of engineers assists our customers during the set up phase, technical assistance, warranty and maintenance.

ISO 9001 Quality Certification
ISO 14001 Environmental Certification



**Kawasaki** - Based in Plymouth, UK, the factory is a highly automated manufacturing facility that produces a wide range of products including axial piston pumps, axial and radial piston motors.

**Wandfluh** - High Quality Swiss made hydraulic valves with a plenty of special executions. The main focus is on poppet valves, proportional valves, miniature hydraulics, explosion proof valves and corrosion protected valves. Wandfluh has an own electronics development and production department.

**Yeoshe** - Founded in 1989, Yeoshe is a professional hydraulic manufacturer and designer of good-quality hydraulic pumps and machine in Taiwan. Endeavoring over 26 years, Yeoshe has established a reliable reputation in providing piston pump for both domestic and international markets.

**Dynex** manufactures hydraulic components that operate up to 104 MPa, including piston pumps, motors, directional control valves and pressure controls. They have been used worldwide for 60 years on difficult applications for mobile, industrial and marine and aircraft equipment.

**HKS** is a German manufacturer with more than 40 years of experience in the hydraulic fields and manufactures rotary actuators, rotary lift combination.

**Rickmeier** manufactures gear pumps, valves, special products and oil feed systems. Meeting particular customers wishes lies at the forefront of the daily operations.

**Hydropa** - A German company concentrating on developing and manufacturing customised electro-hydraulic systems according to customers specifications. In addition the company offers high-quality pressure switches and other hydraulic components.

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### K3VL

Medium pressure, swash plate, open loop axial piston pumps, for both industrial and mobile applications



#### **Features:**

- High power density
- High performances
- High reliability
- High self priming capability
- Wide range of controls
- Spherical valve plate
- Standard ISO / SAE mounting and porting
- Through drive options
- Torque control available

Pump model	Displacement cm <sup>3</sup> /n	Rated Peak pressure		Rotation speed n/min.	
	0 /	MPa	MPa	Max. for self-priming	Max.
K3VL 28	28	32	35	3.000	3.600
K3VL 45	45	32	35	2.700	3.250
K3VL 60	60	25	28	2.400	3.000
K3VL 80	80	32	35	2.400	3.000
K3VL 112	112	32	35	2.200	2.700
K3VL 140	140	32	35	2.200	2.500
K3VL 200	200	32	35	1.900	2.200
K3VL 200H	200	32	35	2.200	2.200

### **PMV**

### Proportional electro-hydraulic control for K3VL pump series

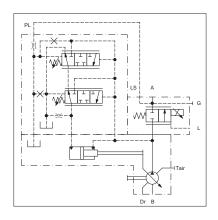


The PMV valve is an electro-proportional flow control for K3VL pumps with LS control.

The valve is designed to be directly flanged to the K3VL45, 60 e 80 pumps with 1" SAE 3000 outlet ports.

The valve can be combined with the constant power control and the electro-proportional pressure control for a complete control of the system performances.

- Compact dimensions
- Flanged to the pump outlet
- Maximum flow limited by screw
- Flow control independent by the pump speed
- 12V DC and 24V DC solenoids available





### K3VL28 (Fan Drive)

Medium pressure, swash plate, open loop axial piston pumps, for both industrial and mobile applications



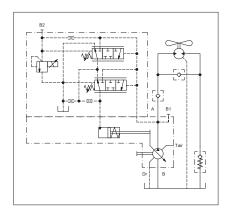


The K3VL pump 28 Fan Drive is variable displacement axial piston pump with a proportional electric controller which can be operated either by the Diesel engine control unit or by the machine control unit.

In this way the cooling air flow is optimized with the temperature of the combustion engine reducing the noise and increasing the efficiency of the system.

#### **Features:**

- Low noise level
- High rotation speed
- Compact design and reduced length
- Suitable for multiple pump assembly



### K3VLS

Medium pressure, swash plate, open loop axial piston pumps, for both industrial and mobile applications (medium duty)





- High overall efficiency
- Compact size
- Light weight
- Excellent reliability
- Wide range of controls
- High stability
- High responsive controls

Pump model	Displacement cm <sup>3</sup> /n	Rated pressure	Peak pressure	Rotation speed n/min.		
	J	MPa	MPa	Max.		
K3VLS 50 *	50			2.600		
K3VLS 65	65		35	2.600		
K3VLS 85	85	28		2.500		
K3VLS 105	105			2.300		
K3VLS 125 *	125			2.200		
K3VLS 150 *	150			2.200		
* Under development						



### K8V

High pressure, variable displacement closed loop circuit axial piston pumps, for industrial applications





#### Features:

- Wide range of controls
- Global standard shaft and mount
- Optimised rotating group
- Additional valves
- Additional sensor options
- Variety of throughdrive options

Pump model	Displacement cm³/n.	Rated pressure MPa	Peak pressure MPa	Max. speed n/min.
K8V 71	71			3.300
K8V 90	90	40	45	3.050
K8V 125	130			2.850

### M7V

High pressure, variable displacement axial piston motors for open and closed loop circuit, for industrial applications





- Swash plate
- High speed operation
- Smooth starting characteristics
- Low speed operation
- Compact size
- Long bearing life

Motor model	Max. displacement cm³/n	Rated pressure MPa	Max. pressure MPa	Max. speed N <sub>nom</sub> /N <sub>max</sub> n/min.
M7V 85	85			3.900 / 6.150
M7V 112	112	40	45	3.550 / 5.600
M7V 160	160			3.100 / 4.900



### K<sub>3</sub>V

High pressure, swash plate, open loop axial piston pumps, for industrial and mobile applications



#### **Features:**

- High pressure
- High performances
- High reliability
- Long life
- Low noise
- Wide range of control options

Pump Displacemen model cm³/n		Rated Peak pressure		Rotation speed n/min.		
model	0 /	MPa	MPa	Max. for self-priming	Max.	
K3V 63	63			2.650	3.250	
K3V 112	112		34 39	2.360	2.700	
K3V 140	140			2.150	2.500	
K3V 280	280	2.4		1.600	2.000	
K3V 63 DT	63+63	34		2.650	3.250	
K3V 112 DT	112+112			2.360	2.700	
K3V 140 DT	140+140			2.150	2.500	
K3V 280 DT	280+280			1.600	2.000	

### K5V

High pressure, swash plate, open loop axial piston pumps, for industrial and mobile applications



- Standard SAE flange and shaft
- High efficiency and high self priming capability
- Low noise
- Wide range of hydraulic and electric controls

Pump model	model cm <sup>3</sup> /n pressure		Peak pressure	Rotation speed n/min.	
	Om /m	MPa	MPa	Max. for self-priming	Max.
K5V 80	80			2.460	3.000
K5V 140	140			2.160	2.500
K5V 160	160		34 39	2.000 / (2.350) *	2.350
K5V 200	200	0.4		1.900 / (2.200) *	2.200
K5V 80 DT	80+80	34		2.460	3.000
K5V 140 DT	140+140			2.160	2.500
K5V 160 DT	160+160			2.000 / (2.350) *	2.350
K5V 200 DT	200+200			1.900 / (2.200) *	2.200
(*) With centrifugal pump					



### **K7SP36**

Medium pressure, swash plate, open loop axial piston double pumps, for mini-exavators



#### **Features:**

- Compact design one suction double pump
- High reliability
- Low noise
- Optional third pump
- Constant power control

Pump model	Displacement cm <sup>3</sup> /n	Rated pressure MPa	Peak pressure MPa	Max. rotation speed for self-priming n/min.
K7SP36	36 + 36	30	32	2.300

### K7VG

High pressure, swash plate, open loop axial piston pumps, for industrial applications



- High power density
- High performances
- High reliability
- Long life
- Low noise and high efficiency
- Wide range of controls
- Enhanced bearing life
- ISO mouting and shaft

Pump model	Displacement cm <sup>3</sup> /n	pressure	Peak pressure	Rotation spe n/min.	ed	
	G 7	MPa	MPa	Max. for self-priming	Max.	
K7VG 180	180	35	25	40	1.850	2.200
K7VG 265	270		30 40	1.600	1.900	



### K3VG

High pressure, swash plate, open loop axial piston pumps, for industrial applications



#### **Features:**

- High pressure
- High performances
- High reliability
- Long life
- Modular design
- Low noise and high efficiency
- High self priming capability
- Wide range of controls

Pump model	Displacement cm <sup>3</sup> /n	Rated Peak pressure		Rotation speed n/min.		
	0 /	MPa	MPa	Max. for self-priming	Max.	
K3VG 63	63	35		1.800	3.250	
K3VG 112	112		35	40	1.800	2.700
K3VG 180	180		40	1.800	2.300	
K3VG 280	280			1.500	2.000	

### **K3VGDT**

High pressure, swash plate, open loop axial piston pumps, for industrial applications



- High pressure
- High performances
- High reliability
- Long life
- Modular design
- Low noise and high efficiency
- High self priming capability
- Wide range of controls
- Compact design double pump

Pump model	Displacement cm <sup>3</sup> /n	pressure	Peak pressure MPa	Rotation spe n/min.	ed
	S 7.1	MPa		Max. for self-priming	Max.
K3VG 180 DT	180+180	35	40	1.800	2.300
K3VG 280 DT	280+280		40	1.500	2.000



### **HMB**

### Fixed displacement radial piston motors for industrial applications



#### **Features:**

- High performance
- High reliability
- Good cavitation tolerance
- Large variety of porting options
- Speed and positioning control options
- High starting and running torque
- Wide range of displacements available

Motor model	Displacement cm <sup>3</sup> /n	Average actual running torque Nm / MPa	Continuous speed n/min.	Continuous power kW	Rated pressure MPa	Intermittent pressure MPa
HMB 010	188	27,9	500	25	20,7	24
HMB 030	442	65,6	450	42	20,7	
HMB 045	740	109,5	400	60		
HMB 060	983	145	300	80		
HMB 080	1.344	199	300	100		
HMB 100	1.639	243	250	110		
HMB 125	2.050	306,6	220	100	25	29
HMB 150	2.470	369,5	220	115	25	
HMB 200	3.087	460,7	175	130		
HMB 270	4.310	637,9	125	140	7	
HMB 325	5.310	794	100	140		
HMB 400	6.800	1.010	120	190		

### **HMC**

### **Dual displacement radial piston motors for industrial applications**



- Dual displacement
- Constant horsepower control option
- High starting and running torque
- High mechanical efficiency
- Smooth, steady, low speed operation
- High performances
- Good cavitation tolerance
- Large variety of porting options
- Speed and positioning control options
- Wide range of displacements available

Motor model		acement m³/n	Average actual running torque Nm / MPa	Continuous speed n/min.	Continuous power kW	Rated pressure MPa	Intermittent pressure MPa
HMC 030	Max.	492	68,6	450	60	20,7	29
TIME 030	Min.	98	11,5	600	10	20,1	23
HMC 045	Max.	737	106,3	450	99		07.5
HIVIC 045	Min.	163	15,5	600	15		
HMC 080	Max.	1.475	239	270	138		
HIVIC USU	Min.	164	15,7	630	12		
HMC 125	Max.	2.048	299	215	135		
HIVIC 125	Min.	164	6	630	4	25	
HMC 200	Max.	3.080	466	175	174	25	27,5
HIVIC 200	Min.	164	6	630	5		
HMC 270	Max.	4.588	694	150	213		
FINC 270	Min.	328	24	545	14		
HMC 325	Max.	5.326	844	130	213		
HIVIC 325	Min.	328	24	545	14		



### **HPC**

### High power, dual displacement radial piston motors for industrial applications



#### **Features:**

- Dual displacement
- Constant horsepower control option
- High starting and running torque
- High mechanical efficiency
- Smooth, steady, low speed operation
- High performances
- Good cavitation tolerance
- Large variety of porting options
- Speed and positioning control options
- Wide range of displacements available
- Enhanced power performance

Motor model	Displacement cm³/n		cm³/n running torque speed power n/min. kW			Rated pressure MPa	Intermittent pressure MPa
HPC 080	Max.	1.600	241	365	165		
HFC 080	Min.	164	16	630	14		27,5
HPC 125	Max.	2.048	308	300	202	25	
HPC 125	Min.	164	8	630	5		
HPC 200	Max.	3.087	472	230	216		
HFC 200	Min.	164	10	630	5		27,5
HPC 270	Max.	4.588	701	150	278		
HPC 270	Min.	328	40	278	21	1	
HPC 325	Max.	5.326	816	130	248		
пРС 325	Min.	492	63	515	39		

### **HMF**

### High power, 3-speed, radial piston motors for industrial applications





- Dynamic displacement change
- 3 displacement modes or two displacement modes plus free wheel
- Speed sensor
- A wide range of displacements from 1.600 to 5.326 cm<sup>3</sup>/n
- Greater flexibility
- Faster response time

Motor model	Max. displacement cm³/n	Rated pressure MPa	Intermittent pressure MPa	Continuos speed max. disp. n/min.	Continuos speed min. disp. n/min.	Max. power kW	Weight kg
HMF 080	1.600		27,5	270	1.000	138	172
HMF 200	3.087	25		175		174	282
HMF 270	4.588	25	27,3	150		189	450
HMF 325	5.326			130		189	460



### **HPC 400**

### High power, 4-speed, radial piston motors for industrial applications





#### **Features:**

- Total displacement 6.554 cm<sup>3</sup>/n
- Max. continuous power of 430 kW
- Smooth operation at low speed
- Dynamic displacement change
- Rated torque of 25.000 Nm
- Freewheel option avaiable
- Rugged Staffa design
- High starting torque
- 25 MPa continuous rating

Motor model	Front Displacement max. / min. cm³/n	Rear Displacement max. / min. cm³/n	Rated pressure MPa	Max. pressure MPa	Continuos speed max. disp. n/min.	Continuos speed min. disp. n/min.	Max. power kW
HPC 400	3.277 - 0	3.277 - 0	25	27,5	220	1.500	430

### **M3X**

### Fixed displacement axial piston motors for industrial applications



- Compact design
- High performance
- High reliability
- Male or female shaft options
- Built in parking brake option
- Advanced low speed characteristics
- Smooth starting characteristics
- High speed operation
- Wide capacity range

Motor model	Displacement cm <sup>3</sup> /n	Rated pressure MPa	Max. pressure MPa	Continuous speed n/min.	Continuos power kW
M3X 200	195			1.900	180
M3X 280	280	20 F	34	1.700	230
M3X 530	533	29,5	04	1.400	370
M3X 800	800			1.200	470



### **M3B**

### Dual displacement axial piston motors for industrial applications



#### **Features:**

- Compact design
- High performances
- High reliability
- Advanced low-speed characteristics
- Smooth starting characteristics
- High speed operation
- Electric displacement control
- Variable displacement

Motor model		Displacement Rated Max.  cm³/n Pa MPa MPa		Continuous speed n/min.	Continuos power kW		
M3B 200	Max.	195	32	35	1.900	180	
WI3B 200	Min.	106	32	35	2.930	100	
M3B 280	Max.	280	30	35	1.700	230	
WI3B 200	Min.	93	30		2.200		
M3B 530	Max.	533	20.5	34	1.400	370	
MI2D 220	Min.	178	29,5	34	1.700		
M3B 800	Max.	800	29,5	34	1.200	470	
M13D 900	Min.	267	29,0	54	1.500	470	

### **M2X - M5X**

### Fixed displacement axial piston motors for industrial applications



- Motor for excavator swing operation
- Integrated valves
- Direct connecting to reduction gear
- High performance and reliability
- Built in shockless relief valves
- Built in parking brake
- Optional time delay valve
- Optional anti-reaction valve

Motor model	Displacement cm³/n	Rated pressure MPa	Max. pressure MPa	Max. speed n/min.	Rated torque Nm
M2X 63	64	29,5	34	2.200	300
M5X 130	129,5	32,5	39	1.850	670
M5X 180	180,1	32,5	39	1.680	932
M2X 210	210,1	29,5	34	1.400	980



### **KLSV**

### Multiple control valves for load-sensing circuits





### Features:

- Post-compensated, flow-sharing design
- Hydraulic pilot and electro-hydraulic actuation
- Special versions for wheel loaders, midi excavators and skid steer loaders
- Three sizes with sectional flow rates of 180, 250 and 400 l/min.

Valve	Max.		. flow nin.	Max.					
model	pressure MPa	P port	Spool section at Δ P=1,5 MPa	sections					
KLSV 18	40	240	180	9					
KLSV 22 *	35	350	300	10					
KLSV 28 *	35	450	400	7					
* Under devel	* Under development								

### PV

### **Remote control pilot valves**





- High responsive, low hysteresis
- Lightweight aluminium housing
- Inlet flow max. 20 l/min.
- Inlet pressure max. 7 MPa
- Control pressure range 0 3 MPa

Valve model	Max. inlet pressure MPa	Max. outlet pressure MPa	Rated flow L/min.	Applications	Features	
PV 48K				20	Excavator	Joystick type
PV 48M			15	Mini Excavator	Compact joystick type	
PVD 6P	7	0 - 2,9		IVIIIII EXCAVATOI	Pedal for propelling	
PVD 8P			10		with damper	
PV 6P			10	Rough Terrain Crane	Compact bankable type	



### Some typical applications

**Mobile / Industrial / Marine** 



**Concrete Pump** 





**Marine Winch** 





**Ceramic Floor Tile Press** 



### **WANDFLUH**

### Hydraulic valves, proportional valves and electronics

#### **Spool Valves**

- Spool valves according to the 5-chamber principle
- Electrically, mechanically, pneumatically and hydraulically actuated
- Precise spool fit
- · Low leakage rate
- Flange design
- · Large standard programme
- Many additional functions
- For the directional controlling of cylinders and hydraulic motors



#### **Poppet Valves**

- Metal-on-metal sealing seat design
- Electrically, mechanically and pneumatically actuated
- Flow in both directions
- Tight sealing in all flow directions
- · Cartridge, flange and sandwich style construction
- Large standard programme
- Many holding loads as well as for tensioning and clamping functions



#### **Proportional Hydraulics**

- Directional, pressure and control valves
- Actuation ny means of proportional solenoid
- Also available with integrated electronics «DSV»
- High resolution
- Good reproducibility
- Low hysteresis
- · Cartridge, flange and sandwich style construction
- For the control and closed-circuit control of automated processes



#### **Electronics**

- · Digital and analogue electronics
- From the amplifier right to the axis controller
- Plugs, Eurocards and snap-on modules
- Also integrated in proportional valve «DSV»
- Parametrisation ny means of convenient software
- High operational convenience
- Easy handling
- Implementation of complex control and closedcircuit control tasks





### **WANDFLUH**

### Hydraulic valves, proportional valves and electronics









#### Cartridges

- Functional part for compact designs
- ISO screw-in cartridges
- Poppet, pressure and flow valves
- Mechanical actuation by means of key or turning knob
- Electrical actuation by means of switching or proportional solenoid
- Simple and precise adjustment
- For installation in control blocks and line mount bodies

#### **Explosion and corrosion protection**

- Extensive product range
- Electric operating menas for all explosion hazard areas
- Gas, dust and mining
- Pressure-proof encapsulation and intrinsically safe in accordance with ATEX and IECEx
- Enhanced corrosion protection right up to stainless versions AISI 316L
- In applications, in which enhanced corrosion protection or explosion protection are required

#### Miniature hydraulics

- Space and weight-saving valves
- Electric actuation with reduced power
- · With reduced volume flows a but high pressure
- Cartridge, flange and sandwich style construction
- Complete product range with all standard functions and actuation methods
- High power density
- Compact design
- For applications where the smallest dimensions and weights are of primary importance

#### **Individual solutions**

- Applications and customer-specific solutions with the experience acquired from standard components
- Hardware and Software for solutions optimized for the application
- Elaborated in accordance with customer specifications
- · Individual sales and technical support
- Involvement of the specialists during the planning and production phases
- Hydraulics and electronics optimally matched to one another
- A lot of know-how form a single source
- From the engineering right to the commissioning



### YEOSHE

### Open loop system axial piston pumps for inustrial applications AR series

The Lightweight compact design AR series medium pressure, open loop, variable displacement pump has been developed for the industrial market.

This pump feature a wide range of control, along life, a good reliability and a low noise design and an aluminium made housing with a pump weight of only 9,4 kg.



- High efficiency
- Multiple optional control system
- Low noise level
- Wide application ranges
- Long life
- Compact aluminium body design

Pump Displacement Rated pressure model cm³/n.		Peak pressure	unloading	Delivery under unloading conditions l/min.		Input speed range n/min.		
		MPa	MPa	1.500 n/min.	1.800 n/min.	Min.	Max.	(single pump)
AR 16	15,8	16,5	21	23,7	28,4	500	1.800	9,4
AR 22	22,2	10,5	21	33,3	40	300	1.000	9,4



### YEOSHE

### Open loop system axial piston pumps for inustrial applications V series

The V Series, medium pressure, open loop, variable displacement pump has been developed for the industrial market where low noise, high overall efficiency, excellent controllability, extended pump life and high reliability are required.

The features such as high efficiency, compact design, long life and a wide range of control options allow each of the V Series unit to be easily matched to any application.

Specially designed for the noise-critical application, its rigid and compact structure reduces air borne noise emissions. All noise reduction features of the V Series provide a typical reduction of 6 dB (A) compared with conventional designs.





- High efficiency
- Multiple optional control system
- Suitable for multiple pump assembly
- Low noise level
- Wide application ranges
- Long life

Pump model	Displacement cm <sup>3</sup> /n.	Rated pressure	Peak pressure	unloading	y under conditions iin.	Input spe n/n	eed range nin.	Weight kg
	MPa	MPa	1.500 n/min.	1.800 n/min.	Min.	Max.	(single pump)	
V 15	15		28	22,5	27	500	1.800	13
V 18	17,8		28	26,7	32			13
V 23	23	1	25	35,4	41,4			22
V 25	25	17,5	21	37,5	45			22
V 38	37,8	17,5	25	56,7	68	500		26
V 42	42	1	21	63	76			26
V 50	51,5	]	21	77,2	92,7			55
V 70	69,7		21	104,5	125,4			56



### **DYNEX**

### High pressure check-ball pumps and valves for high pressure

Dynex manufactures hydraulic components and systems for use on mobile and industrial machinery. These pumps, valves, motors and power units have been sold worldwide for over 40 years. Products include high-pressure piston pumps, high-pressure directional and pressure control valves, heavy-duty piston motors for demanding conditions, and electrohydraulic actuators for remote control.

Dynex also builds standard hydraulic power units or specialized systems for demanding conditions including high pressure and special fluids.



### **High pressure piston pumps**

Individual piston check valves direct flow from the inlet side of the pump to the outlet port in these high pressure hydraulic pumps.

The positive-seating checkball valves provide better wear and high volumetric efficiency, especially at high pressure. These checkball pumps operate at pressures to 138 MPa.



## **Fixed displacement pumps**Displacements from 0,46 to 126 cm<sup>3</sup>/n Max. pressure up to 138 MPa

Variable displacement pumps
Displacements from 27 to 126 cm<sup>3</sup>/n
Max. pressure up to 59 MPa



### **DYNEX**

### High pressure check-ball pumps and valves for high pressure



### Pumps for special fluids

Dynex provides pumps for use with special fluids including a variety of water-based, fire resistant and others.

The properties of these special fluids include a combination of high or low viscosity with either high or low lubricity.



### **Split-Flow® pumps**

Split-Flow® hydraulic pumps, with independent multiple outlets, efficiently supply flows to multiple function circuits and can synchronized movement of cylinders and motors with more efficiency than flow dividers.

Up to 10 indipendent outlets are available.



#### **Directional control valves**

Many models of falgeable solenoid valves are available for pressure up to 70 MPa and flow up to 625 l/min.



#### Pressure control valves

Flangeable pressure control valves are available for pressure up to 104 MPa and flow up to 190 l/min.

# HKS

### **HKS**

### **Hydraulic rotary actuators**

#### **DA-H Series**

#### **Rotating shaft**

Working pressure up to 25 MPa Torque up to 250.000 Nm (15 sizes) Standard angle 90°, 180°, 270°, 360° Special angle up to 1500° Preferred applications: Industy (construction machinery, machine tools etc.)



#### **DA-H-AL Series**

#### **Rotating shaft**

Working pressure up to 21 MPa Torque up to 16.000 Nm Standard angle 90°, 180°, 270°, 360° Special angle up to 1500° Reduced weight (alluminium) Preferred applications: Aerial platforms



#### **DHK-H-ZV Series**

### Rotary-lift combination, front cylinder

Working pressure up to 16 MPa
Torque up to 16.000 Nm (8 sizes)
Standard angle 90°, 180°, 270°, 360°
Lifting capacity up to 1.200 mm
Lifting force up to 360.000 N
Tractive force up to 180.000 N
Preferred applications:
Machine tools, Handling technology



#### **DHK-H-ZH Series**

#### Rotary-lift combination, rear cylinder

Working pressure up to 21 MPa
Torque up to 14.700 Nm (8 sizes)
Standard angle 90°, 180°, 270°, 360°
Lifting capacity up to 700 mm
Lifting force up to 150.000 N
Tractive force up to 110.000 N
Preferred applications:
Machine tools, Handling technology



#### **DKA-H Series**

### **Rotating shaft**

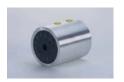
Working pressure up to 10 MPa Torque up to 5.380 Nm (9 sizes) Standard angle 90°, 180°, 270°, 360° Preferred applications: Machine tools



# HKS

## HKS Hydraulic rotary actuators













### M-DA-H Series Rotating flange

Working pressure up to 25 MPa Torque up to 4.800 Nm (11 sizes) Standard angle 180°, 360° Preferred applications: Working platform, construction machinery, automotive technology

### M-DA-H-AL Series

Rotating flange
Working pressure up to 21 MPa
Torque up to 4.800 Nm
Standard angle 180°, 360°
Reduced weight (alluminium)
Preferred applications:
Aerial platforms, automotive
technology

### M-DA-H-F Series

Rotating flange or shaft, with foot Working pressure up to 21 MPa Torque up to 50.000 Nm Standard angle 180°, 360° Preferred applications: Working platform, Garbage trucks Automotive technology, etc.

#### M-DA-H-F3 Series

Rotating flange, special mounting Working pressure up to 21 MPa Torque up to 5.000 Nm Standard angle 180°, 360° Preferred applications: Working platform

#### **SA-H Series**

Rotating shaft, with emergency drive Working pressure up to 10 MPa Torque up to 250.000 Nm (14 sizes) Standard angle 90° Preferred applications: Ball valves, flaps

#### **BV Series**

Rotating flange, with foot Working pressure up to 10 MPa Torque up to 100.000 Nm (9 sizes) Standard angle 100°, 140° Preferred applications: Bucket and ancillary equipment for construction machinery



### RICKMEIER

### High flow, low pressure helical gear pumps for lubrication circuits

Rickmeier developed and produced gear pumps, valves and oil supply systems for lubrication circuits or fluid transportation. Typical application fields for Rickmeier products are the construction of diesel and gas engines, automotive engineering, chemical plant engineering, power plant technology, shipbuilding, wind energy utilization and countless other application fields in general engineering sectors were high efficiency and reliability are requested.



Helical gear pumps for lubrication circuits or fluids transportation for oils and other flow media.

Available displacements from 2,5 to 1.400 cm<sup>3</sup>/n Max. pressure 2,5 MPa



Direct acting or piloted pressure control valves for lubrication circuits.



Complete lubrication and cooling systems for gearboxes or bearings according with costumer specifications.



Development of pumps and special valves for lubrication systems or fluids transportation according with customer specifications.



# HYDROPA Pressure switches for hydraulics



#### DS-117 / 112

### Small size piston pressure switches

- Oil connection 1/4"G female or flangeable
- Max. adjusting pressure 35 MPa
- Protection class IP 65
- Maximum current 5A



### DS-307 / 302

### High performances piston pressure switches

- Oil connection 1/4"G female or flangeable
- · Max. adjusting pressure 60 MPa
- Protection class IP 65 or IP 68 on request
- Maximum current 5A



#### DS-507 / 502

### Standard piston pressure switches

- Oil connection 3/8"G female or flangeable
- · Max. adjusting pressure 35 MPa
- Protection class IP 65
- Maximum current 5A



### DS-4\*7 / 4\*2

### Fail safe piston pressure switches with two switches

- Flangeable
- Max. adjusting pressure 35 MPa
- Protection class IP 65
- Maximum current 5A



### DS-802/M/B

### Diaphragm pressure switches for low pressure

- Oil connection 1/4"G female
- Adjusting pressure from 0,05 to 1,5 MPa
- Protection class IP 65
- Maximum current 5A



Notes	



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