



Your full line partner for hydraulic motion control

February 2012



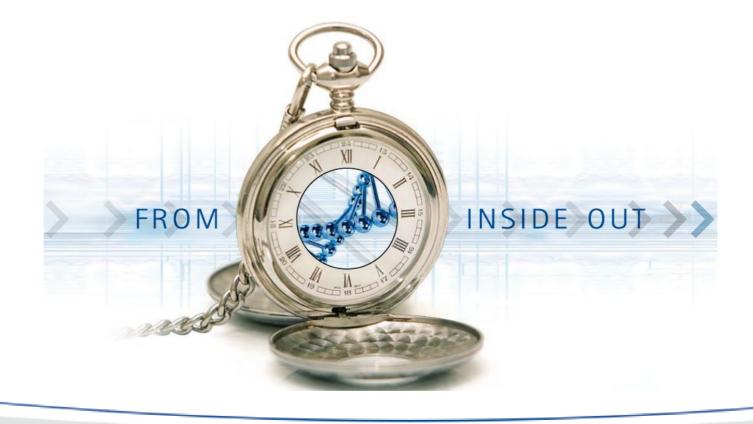
Where we are



Who we are



- Established in the '50s for the production of hydraulic copying systems, with a following development of hydraulic components for the industrial sector
- ▶ Production of hydraulic components and systems, to be used in a wide range of industrial applications
- Shareholders: 85% AXA Private Equity Fund 15% management





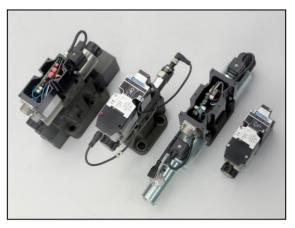
► 50 mio € total turnover and more than 200 employees in 2011

Turnover



Product range





Proportional valves and electronics



Pressure and flow control valves



Directional valves



Hydraulic cylinders



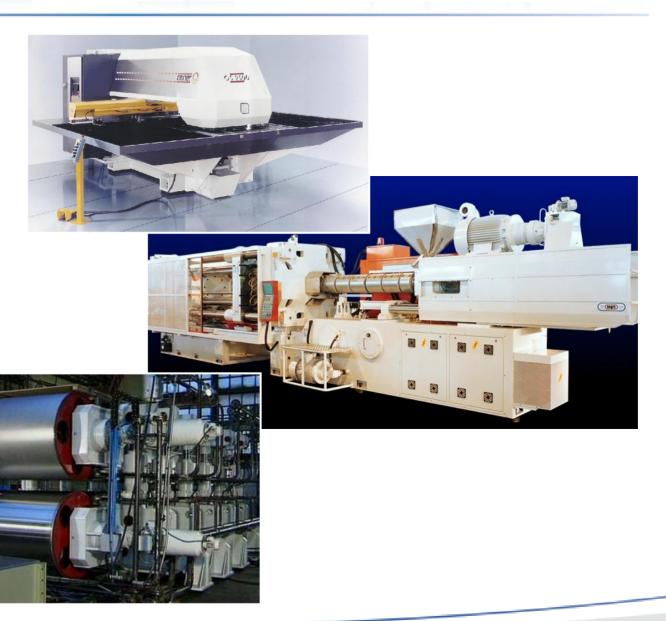
Hydraulic pumps

Application fields



Industrial Field

- ► Deformation and cutting
- Sheet metal processing lines
- Press brakes
- Machine-tools
- Plastic injection moulding
- Rubber
- Iron and steel
- ► Paper mill
- ► Waste disposal
- Marble processing



Application fields



Energy Field

- ► Geothermic
- ▶ Turbogas
- ► Thermoelectric
- ► Hydroelectric
- Lubrication
- Solar thermal plants
- ► Eolic



Application fields



Mobile / Marine / Agricultural

- ► Earth moving machines
- ► Cranes
- Concrete pumps
- Lift platforms
- ► Tree cutting
- ► Hovercrafts, ships
- ► Harversters, sprayers





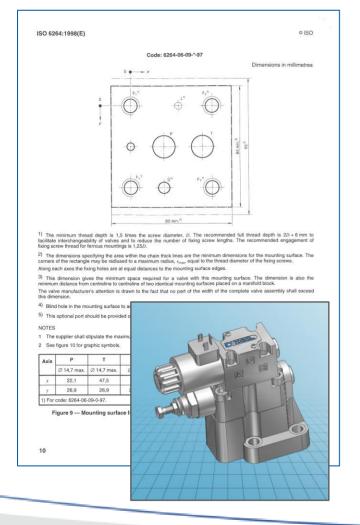




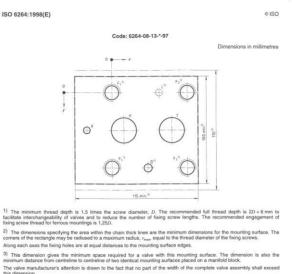
ISO and CETOP standards

► Pressure control valves

ISO 6264-06-09-*-97

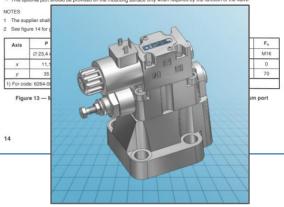


ISO 6264-08-13-*-97

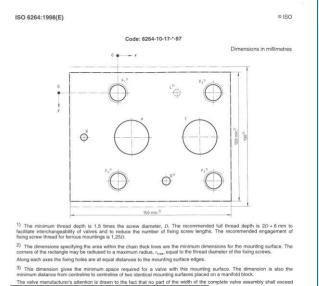


is dimension.

Blind hole in the mounting surface to accommodate the locating pin on the valves. The minimum depth is 4 mm.
 This optional port should be provided on the mounting surface only when required by the function of the valve.



ISO 6264-10-17-*-97

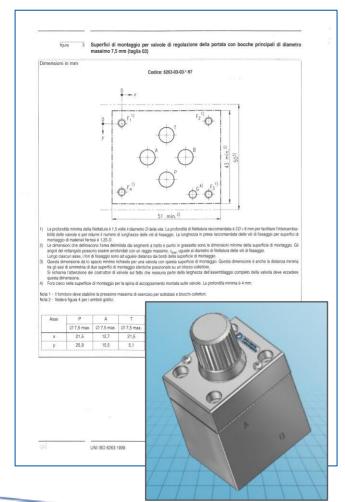


ISO and CETOP standards

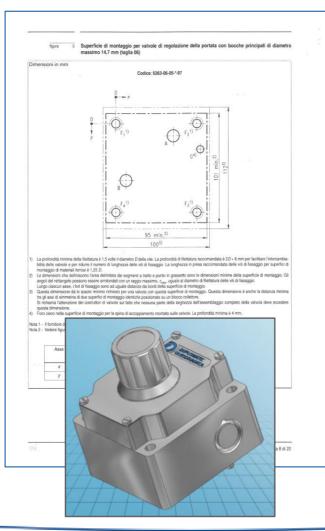


► Flow control valves

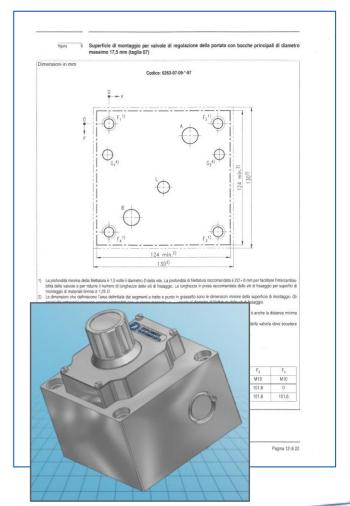
ISO 6263-03-03-*-97



ISO 6263-06-05-*-97



ISO 6263-07-09-*-97

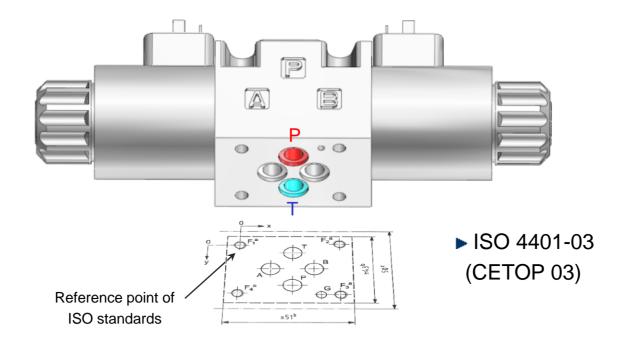


ISO and CETOP STANDARDS



The compliance of the mounting surface with ISO and CETOP STANDARDS guarantees **full interchangeability** with major players like Bosch-Rexroth, Eaton-Vickers and Parker

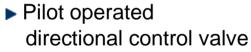
Directional control valve

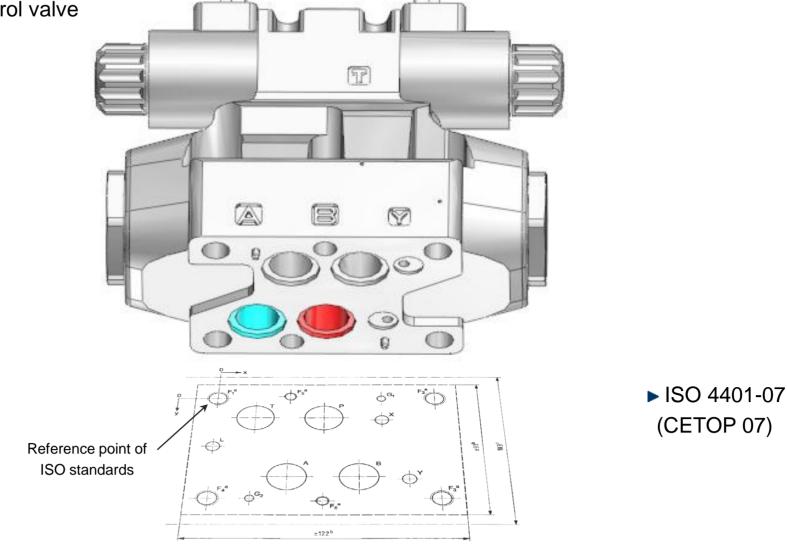


P (pressure) port is identified by red colour and T (outlet) port is identified by blue colour in all our 3D models for the correct valve mounting on the plate or manifold



ISO and CETOP standards

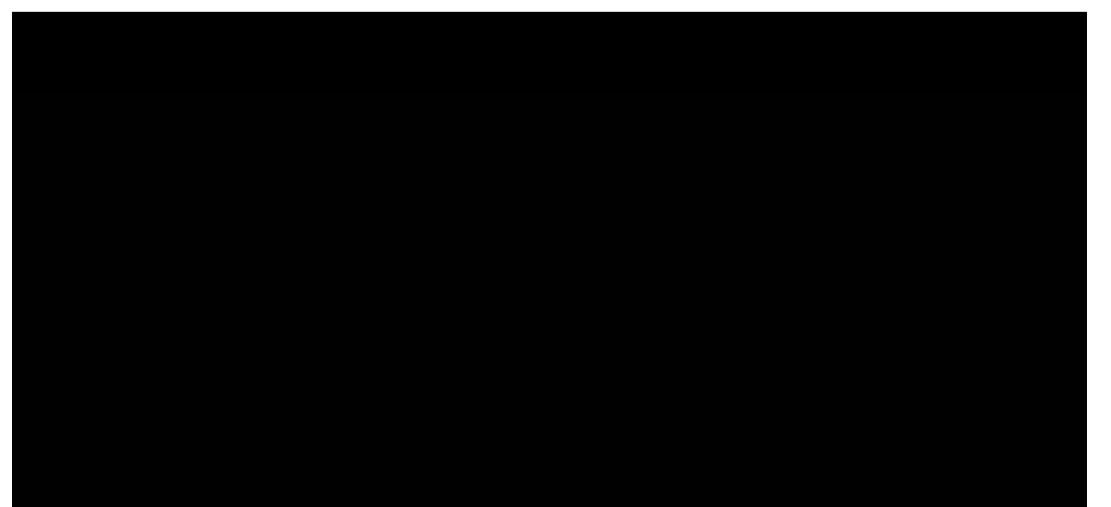






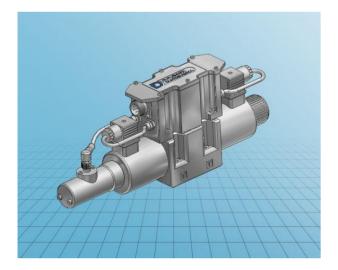
ISO and CETOP standards

Modular valves assembling animation



3D catalogue PRODUCT RANGE





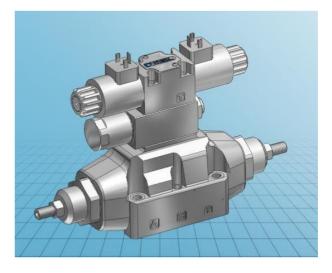
 Proportional valves with integrated electronics



 Logic elements



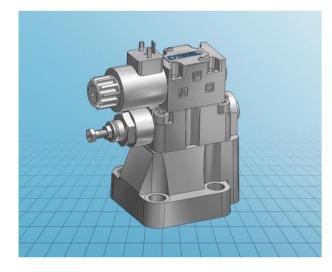
 Modular valves



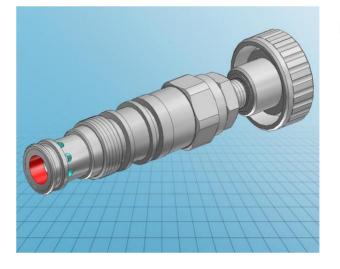
Piloted
 distributors

3D catalogue PRODUCT RANGE

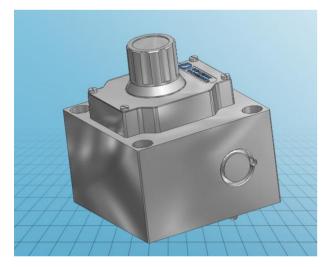




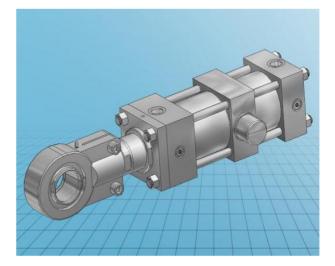
 Pressure control valves



 Cartridge valve



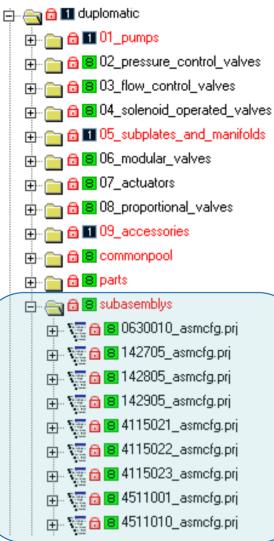
Flow
 control valves



 Hydraulic cylinders

HOW WE BUILT OUR 3D CATALOGUE

Duplomatic PARTProject structure



USE OF SUBASSEMBLIES

Duplomatic products are made of modular parts that can be combined.

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For this reason the CADENAS development Team has used subassemblies for our catalogue project.

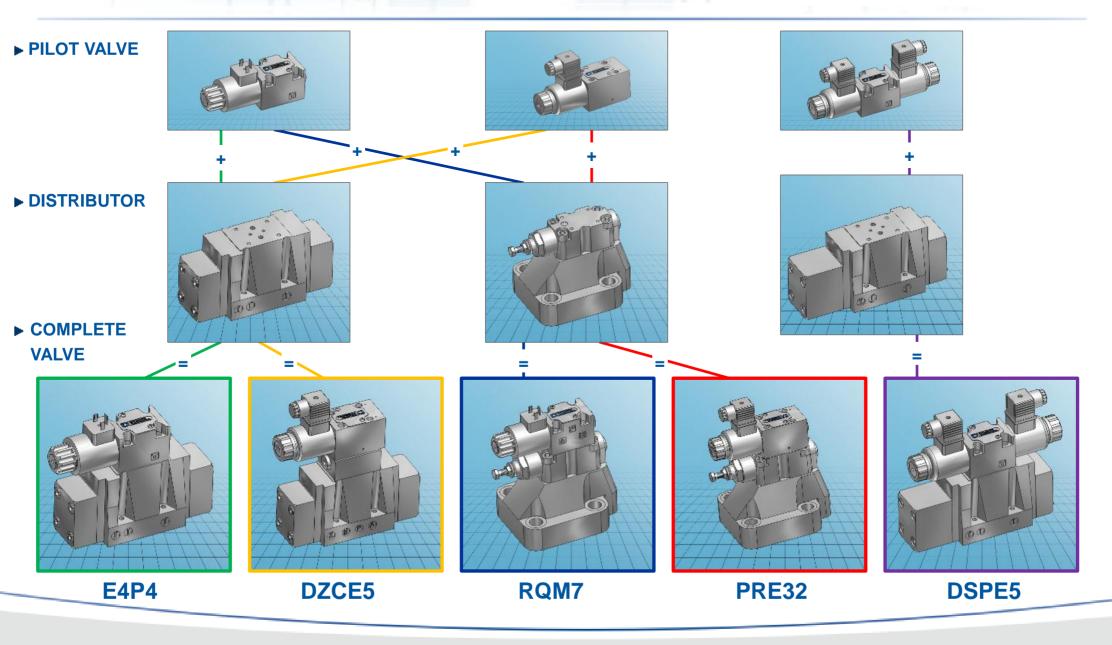
Subassemblies have their own configurator (.asmcfg), linked to the main product one.

The use of subassemblies, with a structure similar to the one used in our productive processes, allows:

- a more linear flow of the information between the Technical Office of the eCATALOGSolution customer and the CADENAS Team
- a facilitated handling of the editing which is better than the use of single part projects (.3db)

HOW WE BUILT OUR 3D CATALOGUE



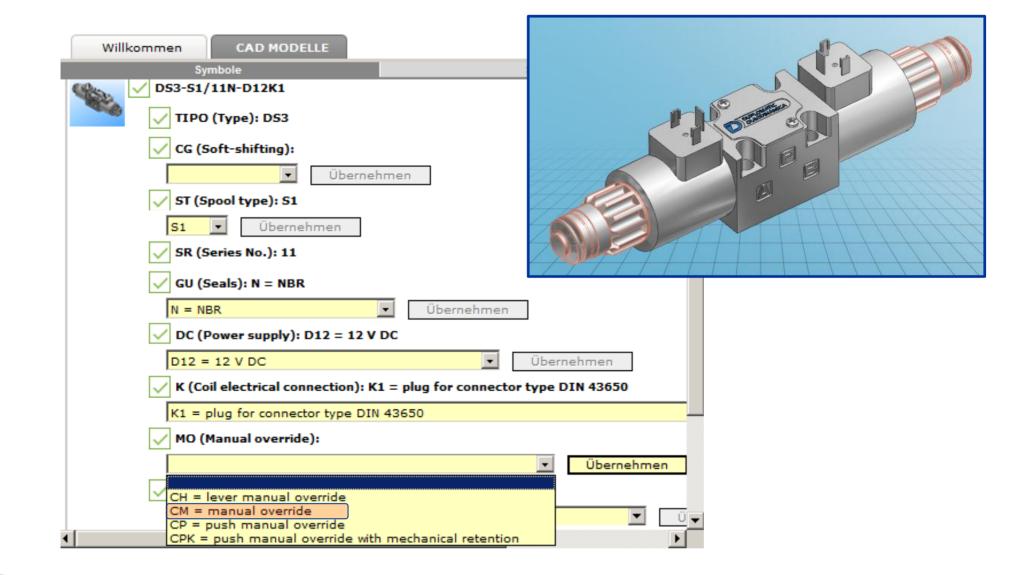




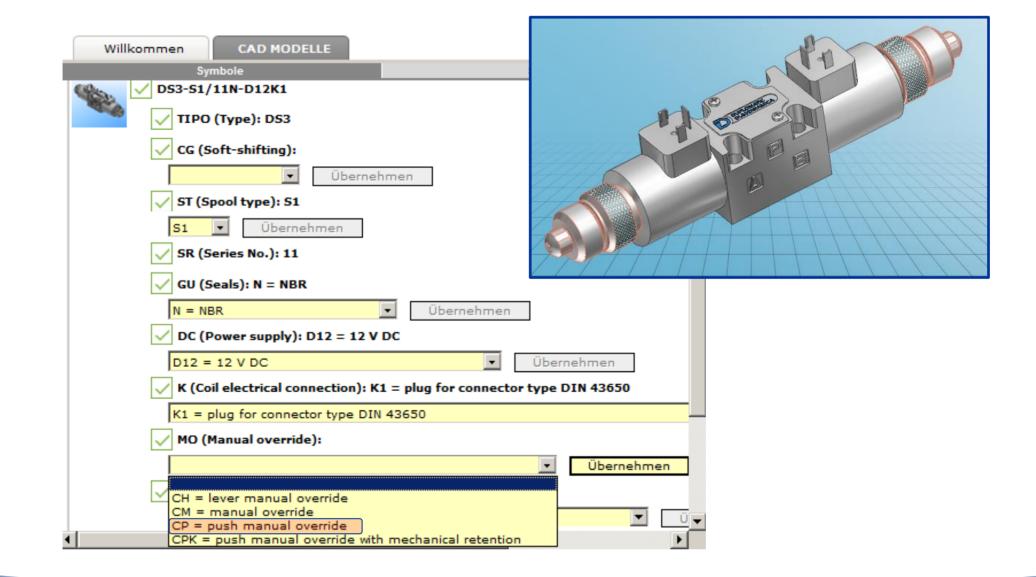
► Extreme accuracy of the 3D model for the optimisation of user's project dimensions

Symbole	Suche		
Contraction DS3-S1/11N-D12K1			
TIPO (Type): DS3			
✓ CG (Soft-shifting):			
▼ Übernehmen			
✓ ST (Spool type): S1			
S1 Ūbernehmen			
SR (Series No.): 11			
GU (Seals): N = NBR			
N = NBR Übernehmer	n		
DC (Power supply): D12 = 12 V DC		>	D12 = 12 V DC
D12 = 12 V DC	Übernehmen]	D12 = 12 V DC D24 = 24 V DC
K (Coil electrical connection): K1 = plug for connect	tor type DIN 43650		D28 = 28 V DC D48 = 48 V DC
K1 = plug for connector type DIN 43650			D110 = 110 V DC D220 = 220 V DC
MO (Manual override):			D00 = valve without coils in direct current A24 = 24 V - 50 Hz
	▼ Überne	hmen	A48 = 48 V - 50 Hz A110 = 110 V - 50 Hz / 120 V - 60 Hz
W (Surface treatment):			A230 = 230 V - 50 Hz / 240 V - 60 Hz F110 = 110 V - 60 Hz
			F220 = 220 V - 60 Hz
		▼ ÜL ▼	A00 = valve without coils in alternating current
•			

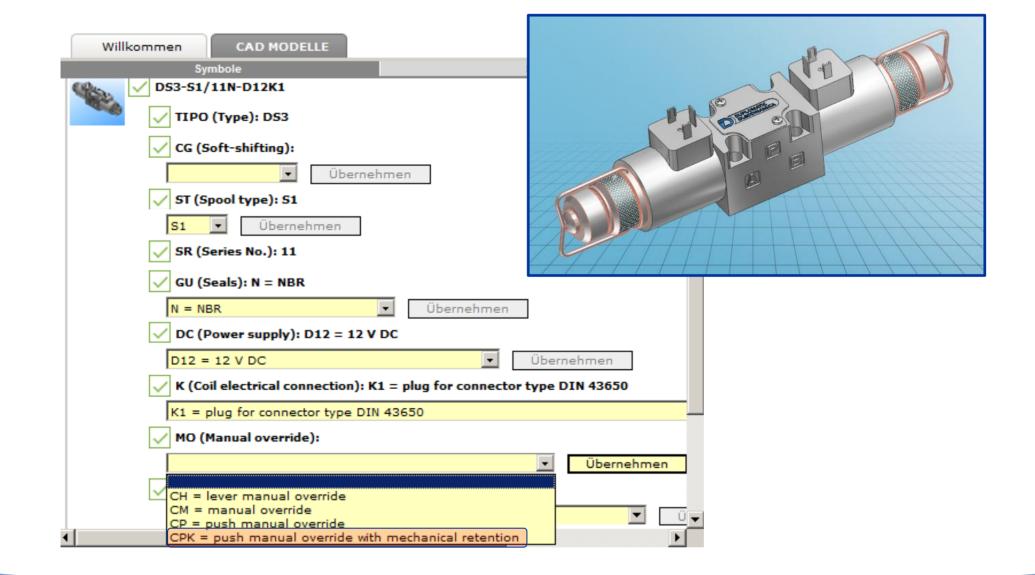




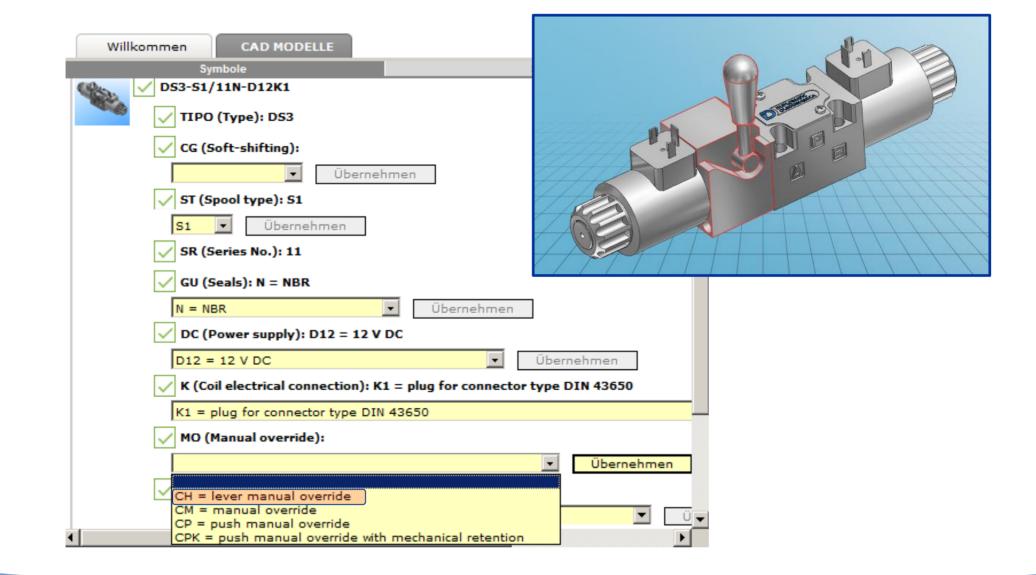














Symbole Variablen Image: DL3-S1/10N-D12K1 Image: DI3-S1/10N-D12K1 Image: DI3-S1/1	
K1 = plug for connector type DIN 43650 K2 = plug for connector type AMP JUNIOR K4 = outgoing cables K7 = plug for connector type DEUTSCH DT04-2P male K8 = plug for connector type AMP SUPER SEAL	

Choice of several connectors for mobile applications



Symbole	
DL3-S1/10N-D12K1	C D Ramana
ST (Spool type): S1	
✓ SR (Series No.): 10 ✓ GU (Seals): N = NBR N = NBR Übernehmen	
DC (Power supply): D12 = 12 V DC D12 = 12 V DC Übernehr	nen
K (Coil electrical connection): K1 = plug for connector ty K1 = plug for connector type DIN 43650	vpe DIN 43650
K1 = plug for connector type DIN 43650 K2 = plug for connector type AMP JUNIOR K4 = outgoing cables K7 = plug for connector type DEUTSCH DT04-2P male K8 = plug for connector type AMP SUPER SEAL	



Symbole Variablen Image: DL3-S1/10N-D12K1 Image: DI3-S1/10N-D12K1 Image: DI3-S1/10N-D13-S1/10N-D13 Image: DI3-S1/10N-D13-S1/10N-D13 </th <th></th>	
K1 = plug for connector type DIN 43650 K2 = plug for connector type AMP JUNIOR K4 = outgoing cables K7 = plug for connector type DEUTSCH DT04-2P male K8 = plug for connector type AMP SUPER SEAL	



Symbole Variablen Image: DL3-S1/10N-D12K1 Image: DL3-S1/1	<image/>
D12 = 12 V DC Ubernehr K (Coil electrical connection): K1 = plug for connector ty K1 = plug for connector type DIN 43650 K2 = plug for connector type AMP JUNIOR K4 = outgoing cables K7 = plug for connector type DEUTSCH DT04-2P male K8 = plug for connector type AMP SUPER SEAL	

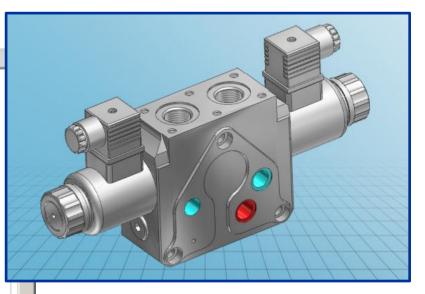


Symbole Variablen Image: DL3-S1/10N-D12K1 Image: TIPO (Type): DL3 Image: TIPO (Type): DL3 Image: ST (Spool type): S1 Image: ST (Series No.): 10 Image: SR (Series No.): 10 Image: ST (Spool type): N = NBR Image: N = 12 V DC Image: N = 12 V DC	
K1 = plug for connector type DIN 43650 K2 = plug for connector type AMP JUNIOR K4 = outgoing cables K7 = plug for connector type DEUTSCH DT04-2P male K8 = plug for connector type AMP SUPER SEAL	

BANKABLE VALVES CONFIGURATOR

▶ Proportional module 1

Symbole	Suche
BLS6-PC15/15/11V-D12K1	
TIPO (Type): BLS6	
ST (Spool type): PC = Closed co	enters for proportional modules
PC = Closed centers for proport	ional modules 💌 Übernehmen
SP (Solenoid position):	
•	Übernehmen
SF (Spool nominal flow): 15/15	5 = 15 l/min symmetrical
15/15 = 15 l/min symmetrical	💌 Übernehmen
✓ SR (Series No.): 11	
✓ GU (Seals): V = FPM seals for s	pecial fluids
DC (Nominal solenoid voltage)	: D12 = Nominal solenoid voltage 12V DC
D12 = Nominal solenoid voltage	2 12V DC ▼ Übernehmen
✓ K (Coil electrical connection): I	K1 = plug for connector type DIN 43650
(standard)	
K1 = plug for connector type DI	N 43650 (standard) 💌 Übernehmen
✓ MO (Manual override):	
	Übernehmen



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3 different subprojects

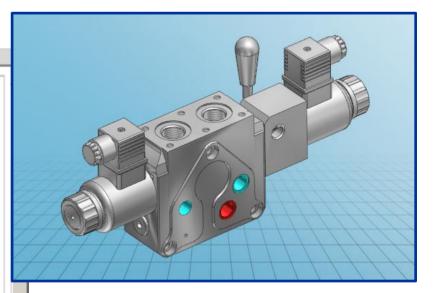
for 1 bankable valve



BANKABLE VALVES CONFIGURATOR

► Proportional module 2

Symbole	Suche
BLS6-PC15/15/11V-D12K1/CH	
TIPO (Type): BLS6	
ST (Spool type): PC = Closed ce	nters for proportional modules
PC = Closed centers for proporti	onal modules 💌 Übernehmen
✓ SP (Solenoid position):	
	Übernehmen
SF (Spool nominal flow): 15/15	= 15 l/min symmetrical
15/15 = 15 l/min symmetrical	▼ Übernehmen
SR (Series No.): 11	
GU (Seals): V = FPM seals for s	pecial fluids
DC (Nominal solenoid voltage):	D12 = Nominal solenoid voltage 12V DC
D12 = Nominal solenoid voltage	12V DC 🔻 Übernehmen
✓ K (Coil electrical connection): K	1 = plug for connector type DIN 43650
(standard)	
K1 = plug for connector type DIM	1 43650 (standard) 💌 Übernehmen
✓ MO (Manual override): CH = lev	er manual override
CH = lever manual override 💌	Übernehmen



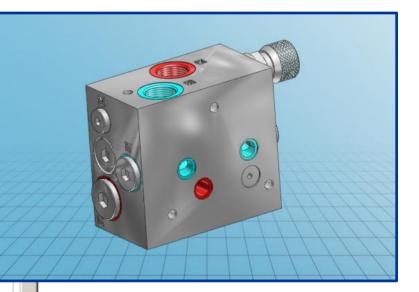
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► Inlet module



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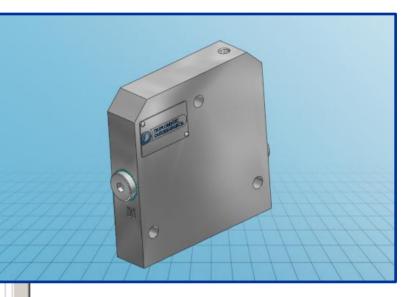
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BANKABLE VALVES CONFIGURATOR



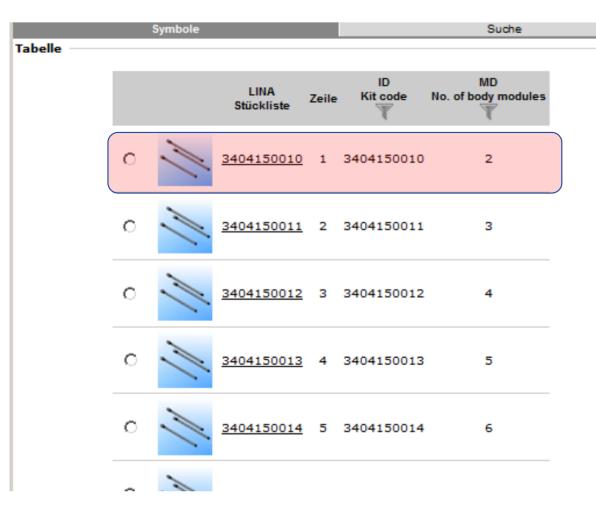
► End plate

Symbole	Suche
Variablen	
BLS6-C91/11	
TIPO (Type): BLS6	
CP (Version): C91 = with	out load sensing port
C91 = without load sensi	ng port 💌 Übernehmen
V PR (Pressure adjustmer	nt range):
SR (Series): 11	
GU (Seals):	
☆ Legende	
Aktion erfolgreich	
× Aktion nicht erfolgreich	
Aktionen	
🧟 Generiere CAD MODELL 🛛 🦣 Ger	neriere PDF-Datenblatt 🧞 Generiere
	Vorschau





► Fixing kit





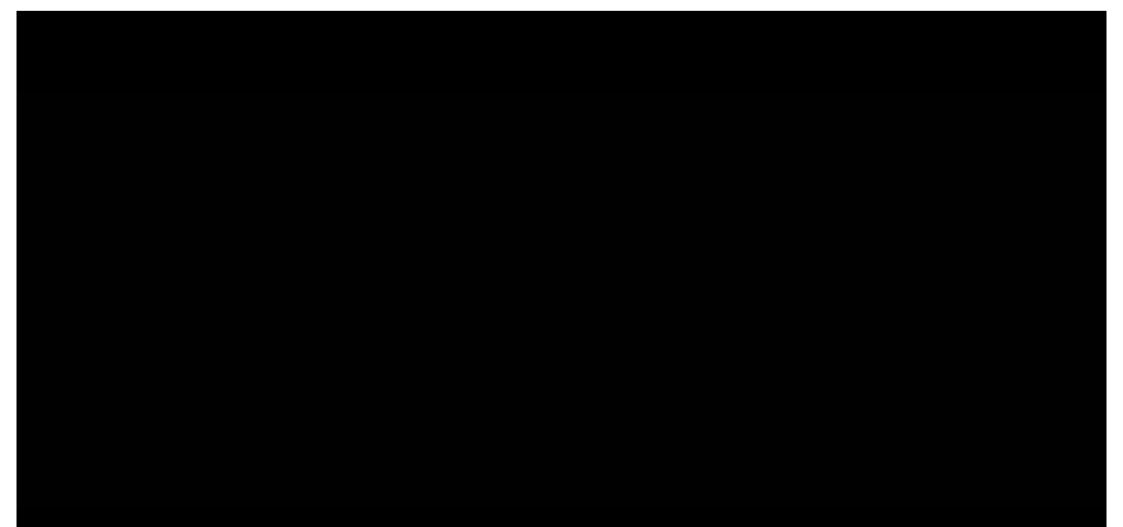
DUPLOMATIC

OLEODINAMICA





Bankable valves assembling animations

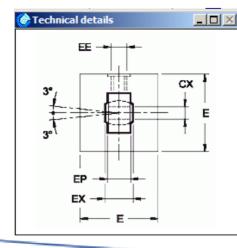


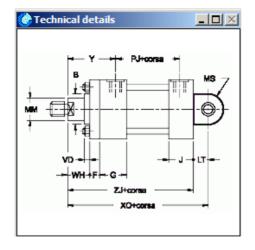


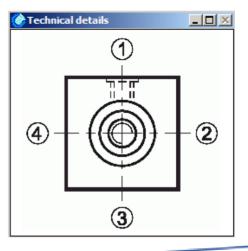
3D CYLINDER CONFIGURATOR

The compliance with ISO 6020/2 STANDARDS of Duplomatic cylinders guarantees interchangeability with major players

	B Ø f8 [mm]	CX Ø [mm]	E max [mm]	EE BSP [INCH]	EP [mm]	EX [mm]	F [mm]	G [mm]	J [mm]	LT [mm]	MS [mm]	PJ [mm]	VD [mm]
14	60	30 (0/-0.012)	90	1/2"	19	22 (0/-0.12)	15	55	45	38	40	80	14
15	50	40 (0/-0.012)	115	3/4"	23	28 (0/-0.12)	20	65	52	48	50	93	5
16	60	40 (0/-0.012)	115	3/4"	23	28 (0/-0.12)	20	65	52	48	50	93	9
17	72	40 (0/-0.012)	115	3/4"	23	28 (0/-0.12)	20	65	52	48	50	93	9
18	60	50 (0/-0.012)	130	3/4"	30	35 (0/-0.12)	22	69	55	58	62	101	7
19	72	50 (0/-0.012)	130	3/4"	30	35 (0/-0.12)	22	69	55	58	62	101	7
20	88	50 (0/-0.012)	130	3/4"	30	35 (0/-0.12)	22	69	55	58	62	101	10
21	72	60 (0/-0.015)	165	1"	38	44 (0/-0.15)	22	78	71	72	80	117	6
22	88	60 (0/-0.015)	165	1"	38	44 (0/-0.15)	22	78	71	72	80	117	10
23	108	60 (0/-0.015)	165	1"	38	44 (0/-0.15)	22	78	71	72	80	117	10



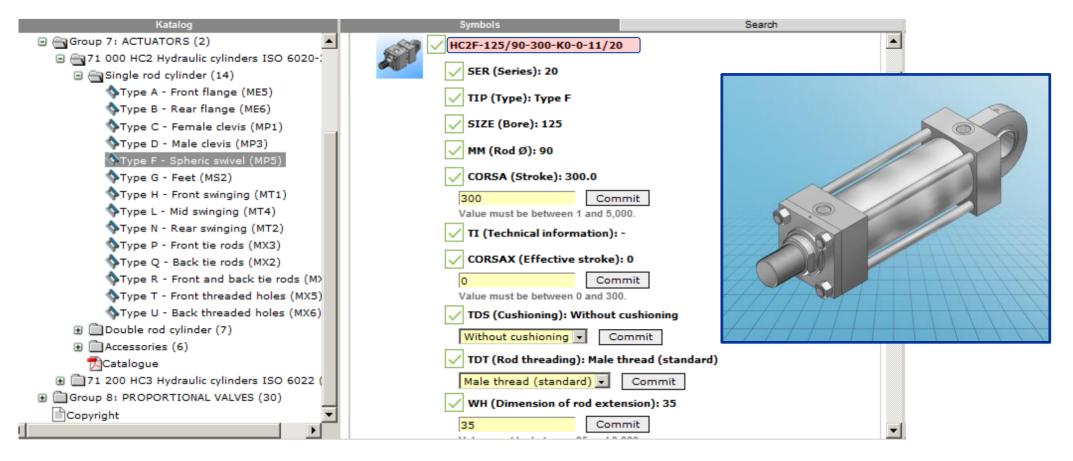




3D CYLINDER CONFIGURATOR

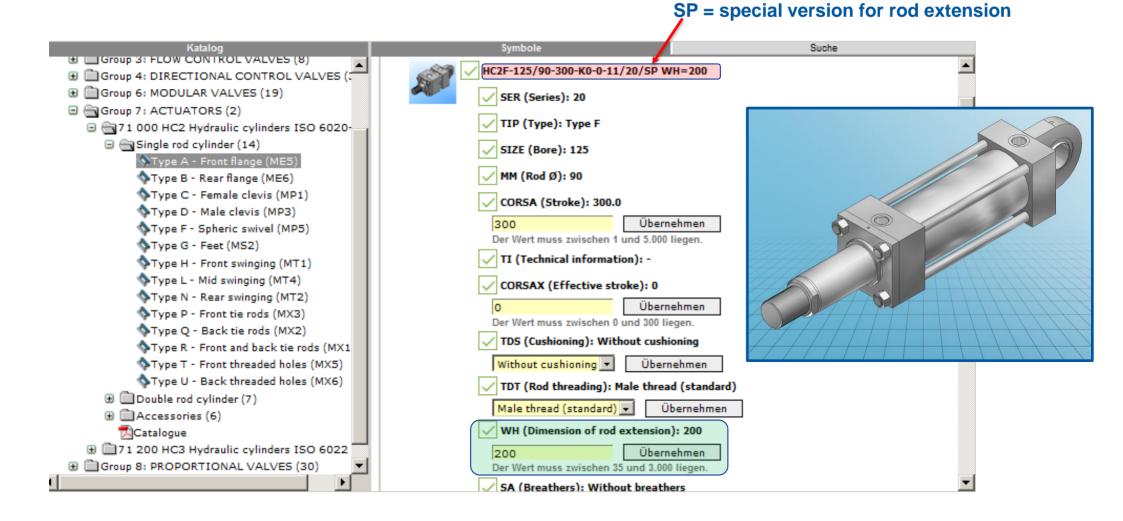


- Leads the purchaser to the correct description
- Supports the designers during the special versions identification



3D CYLINDER CONFIGURATOR





3D CYLINDER CONFIGURATOR



 Group 4: DIRECTIONAL CONTROL VALVES (1) Group 6: MODULAR VALVES (19) Group 7: ACTUATORS (2) T1000 HC2 Hydraulic cylinders ISO 6020- State (Bore): 125 Type A - Front flange (ME5) Type C - Female clevis (MP1) Type C - Female clevis (MP3) Type F - Spheric swivel (MP5) Type G - Feet (MS2) Type H - Front swinging (MT1) Type A - Front is rowing (MT1) Type N - Rear swinging (MT1) Type P - Front is rowing (MT2) Type P - Front is rowing (MT2) Type P - Front is rowing (MT3) Type P - Back tie rods (MX2) 	 Group 4: DIRECTIONAL CONTROL VALVES (* Group 6: MODULAR VALVES (19) Group 7: ACTUATORS (2) T1 000 HC2 Hydraulic cylinders ISO 6020- Single rod cylinder (14) Type A - Front Bange (MES) Type B - Rear flange (ME5) Type C - Female clevis (MP1) Type C - Female clevis (MP3) Type F - Spheric swivel (MP5) Type G - Feet (MS2) Type H - Front swinging (MT1) Type L - Mid swinging (MT1) Type N - Rear swinging (MT2) Type P - Front tie rods (MX3) 	 Group 4: DIRECTIONAL CONTROL VALVES (1) Group 6: MODULAR VALVES (12) T1 000 HC2 Hydraulic cylinders ISO 6020 Single rod cylinder (14) Stype 7- Rear flange (ME6) Type 6 - Rear flange (ME7) Type 7 - Spharic swivel (MP3) Type 7 - Spharic swivel (MP3) Type 7 - Front threade (M12) Type 8 - Rear smigning (MT1) Type 9 - Front threade (MX3) Type 9 - Back tie rods (MX3) Type 4 - Bront tier ods (MX3) Type 4 - Bront tier ods (MX3) Type 7 - Front threade holes (MX5) Type 7 - Front threade holes (MX5) Type 1 - Bront tier ods (MX3) Type 1 - Bront tier ods (MX3) Type 4 - Bront tier ods (MX3) Type 4 - Bront tier ods (MX3) Type 7 - Front threade holes (MX5) Type 8 - Front and back tier ods (MX1) Type 9 - Back tier ods (MX2) Type 9 - Back tier ods (MX2) Type 1 - Bront tier ods (MX3) Type 1 - Bront tier ods (MX3) Type 1 - Bront tier ods (MX2) Type 1 - Front threade holes (MX5) Type 1 - Bront tier ods (MX2) Type 1 - Bront tier ods (MX2) Type 1 - Bront tier ods (MX3) Type 1 - Bront tier ods (MX2) Type 1 - Front threade holes (MX5) Type 1 - Front threade holes (MX5) Without cushioning Without cushioning Without cushioning Without cushioning Without cushioning Without cushioning With (Dimension of rod extension): 200 Bernehmen Del Wert muss zwischen 35 und 2.000 liegen. M (M (Dimension of rod extension): 200 Der Wert muss zwischen 35 und 2.000 liegen. M (Stod accessory): Spherical swivel (ISO 8133/DII) 24555 	Katalog	Symbole	Suche
 Group 6: MODULAR VALVES (19) Group 7: ACTUATORS (2) T10 000 HC2 Hydraulic cylinders ISO 6020 Single rod cylinder (14) StZE (Bore): 125 MM (Rod Ø): 90 Type A - Front flange (ME5) Type B - Rear flange (ME6) Type F - Spheric swivel (MP5) Type G - Feet (MS2) Type G - Feet (MS2) Type H - Front swinging (MT1) Type N - Rear swinging (MT2) Type P - Front tie rods (MX3) Type Q - Back tie rods (MX2) SER (Series): 20 MM (Rod Ø): 90 CORSA (Stroke): 300.0 O Ubernehmen Der Wert muss zwischen 1 und 5.000 liegen. CORSAX (Effective stroke): 0 O Ubernehmen Der Wert muss zwischen 0 und 300 liegen. Type P - Front tie rods (MX2) 	 Group 6: MODULAR VALVES (19) Group 7: ACTUATORS (2) Single rod cylinder (14) Type B. Kear flange (MES) Type C. Famala clevis (MP3) Type C. Famala clevis (MP3) Type D. Mala clevis (MP3) Type G. Facet (MS2) Type G. Facet (MS2) Type A. Front abusch tier cods (MX1) Type P. Front threaded holes (MX5) Type T. Front threaded holes (MX5) Catalogue Tot (I clot threading): Male thread (standard) With Out cushining Ubernehmen Der Wert muss zwischen 0 and 300 liegen. Tot (I clot threading): Male thread (standard) With Out cushining Ubernehmen With Out c	 Group 6: MODULAR VALVES (19) Group 7: ACTUATORS (2) Group 7: ACTUATORS (2) Group 7: ACTUATORS (2) Group 7: ACTUATORS (2) Group 8: PROPORTIONAL VALVES (30) SER (Series): 20 Series (Srieg): 200-00 Series 200 <l< td=""><th></th><td>KO-0-11/20/SP WH=20</td><td>10+Spherical swivel SSF-90</td></l<>		KO-0-11/20/SP WH=20	10+Spherical swivel SSF-90
Type R - Front and back tie rods (MX1 Type T - Front threaded holes (MX5) Type U - Back threaded holes (MX6) Double rod cylinder (7) Accessories (6) Catalogue T1 200 HC3 Hydraulic cylinders ISO 6022 Without cushioning C Ubernehmen Ubernehmen Ubernehmen Ubernehmen Ubernehmen		Spherical swivel (ISO 8133/DIN 24555 Commit ADX (Rear accessory): No	 Group 3: FLOW CONTROL VALVES (8) Group 4: DIRECTIONAL CONTROL VALVES (19) Group 6: MODULAR VALVES (19) Group 7: ACTUATORS (2) T1 000 HC2 Hydraulic cylinders ISO 6020- Single rod cylinder (14) Type A - Front flange (ME5) Type B - Rear flange (ME6) Type C - Female clevis (MP1) Type C - Female clevis (MP3) Type F - Spheric swivel (MP5) Type G - Feet (MS2) Type H - Front swinging (MT1) Type L - Mid swinging (MT4) Type N - Rear swinging (MT2) Type Q - Back tie rods (MX3) Type Q - Back tie rods (MX2) Type T - Front threaded holes (MX5) Type U - Back threaded holes (MX6) Double rod cylinder (7) Accessories (6) Catalogue T1 200 HC3 Hydraulic cylinders ISO 6022 	Image: Series in the	n n n n n n n n n n n n n n n n n n n

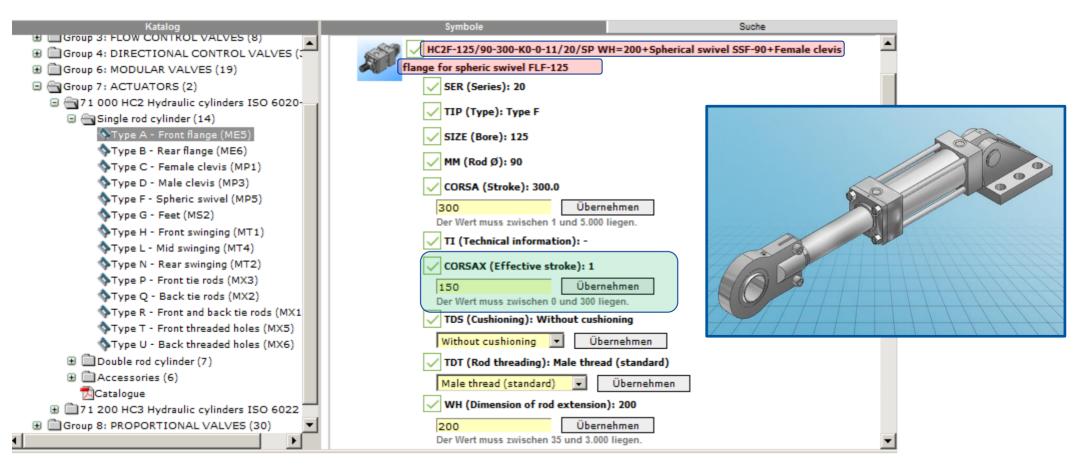
3D CYLINDER CONFIGURATOR



Katalog	Symbole	Suche	
Group 3: FLOW CONTROL VALVES (8) Group 4: DIRECTIONAL CONTROL VALVES (2)	KC2F-125/90-300-K0-0-11/20/SP WH=200+Spherical	swivel SSF-90+Female clevis	
Group 6: MODULAR VALVES (19)	flange for spheric swivel FLF-125		
Group 7: ACTUATORS (2)	SER (Series): 20		
🖃 🔄 71 000 HC2 Hydraulic cylinders ISO 6020-	TIP (Type): Type F		
Single rod cylinder (14)			
Type A - Front flange (ME5)	✓ SIZE (Bore): 125		
Type C - Female clevis (MP1)	📈 MM (Rod Ø): 90		
Type D - Male clevis (MP3)	CORSA (Stroke): 300.0		
Type F - Spheric swivel (MP5)	300 Übernehmen		
Type G - Feet (MS2)	Der Wert muss zwischen 1 und 5.000 liegen.		
Type H - Front swinging (MT1)	✓ TI (Technical information): -		
Type L - Mid swinging (MT4) Type N - Rear swinging (MT2)	CORSAX (Effective stroke): 0		
Type P - Front tie rods (MX3)	0 Übernehmen		
Type Q - Back tie rods (MX2)	Der Wert muss zwischen 0 und 300 liegen.		
Type R - Front and back tie rods (MX1	TDS (Cushioning): Without cushioning		
Type T - Front threaded holes (MX5)	Without cushioning VÜbernehmen		
Type U - Back threaded holes (MX6)			
 Double rod cylinder (7) Ccessories (6) 	TDT (Rod threading): Male thread (standard)		
	Male thread (standard) 🗸 Übernehmen		
⊞ ☐ 71 200 HC3 Hydraulic cylinders ISO 6022	✓ WH (Dimension of rod extension): 200		
Group 8: PROPORTIONAL VALVES (30)	200 Übernehmen		
	Der Wert muss zwischen 35 und 3.000 liegen. ASX (Rod accessory): Spherical swivel (ISO 813)	33/DIN 24555	
		ommit	
	ADX (Rear accessory): Female clevis flange for spheric swivel (DIN		
	24554) Female clevis flange for spheric swivel (DIN 2455	(4) V Commit	
I			

3D CYLINDER CONFIGURATOR

Control of the effective stroke value



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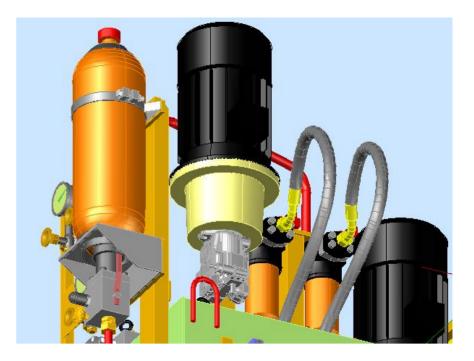
OLEODINAMICA

POWER UNITS 3D: steam turbines





motor pump group detail

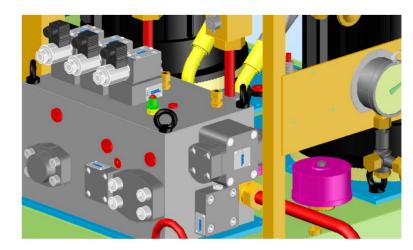


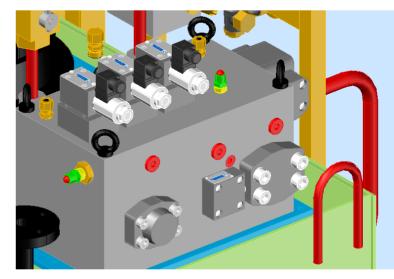
POWER UNITS 3D: steam turbines





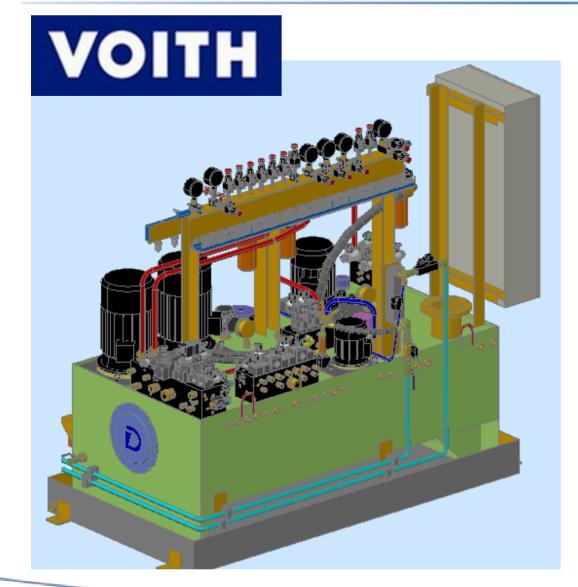
manifold details



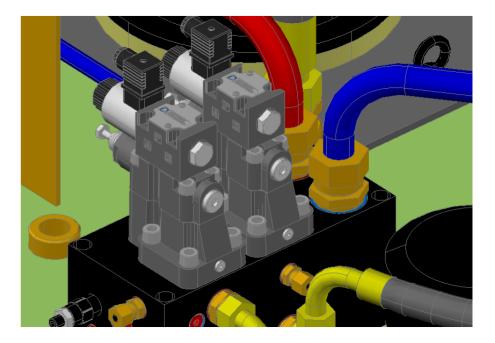


POWER UNITS 3D: water turbines



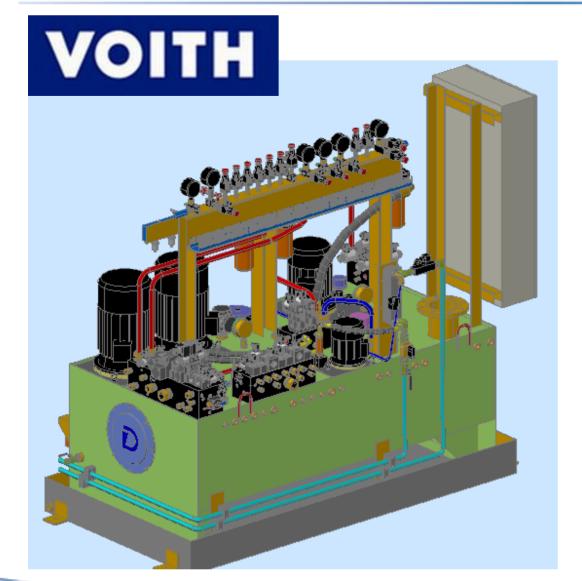


manifold detail

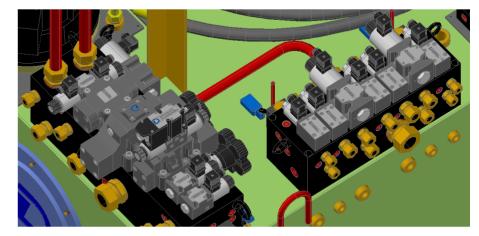


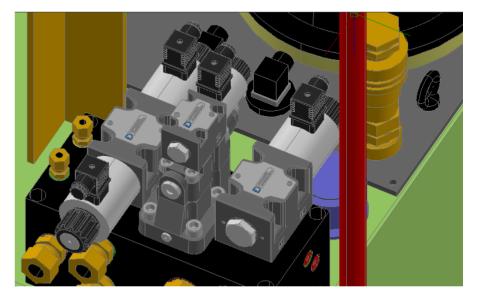
POWER UNITS 3D: water turbines





manifold details

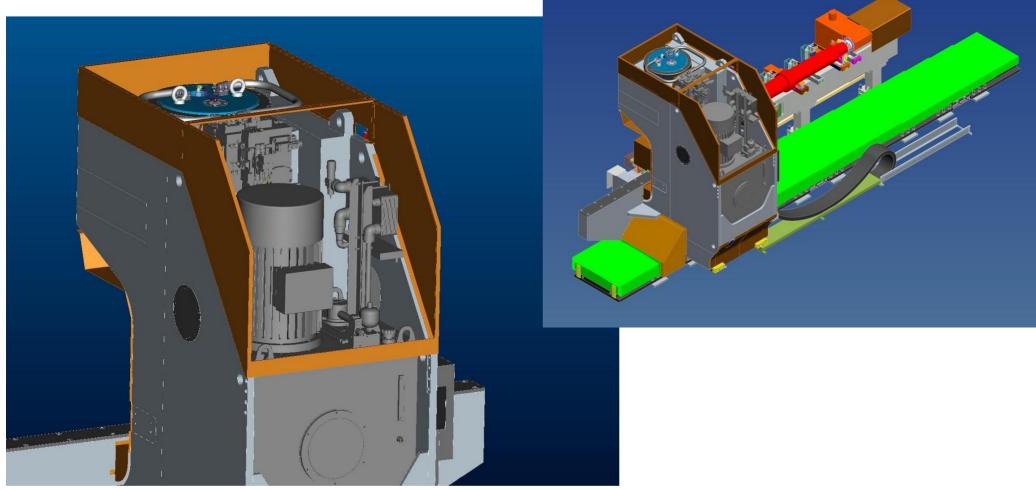




POWER UNITS 3D: straightening system







manifold detail

3D catalogue DOWNLOADS feedback



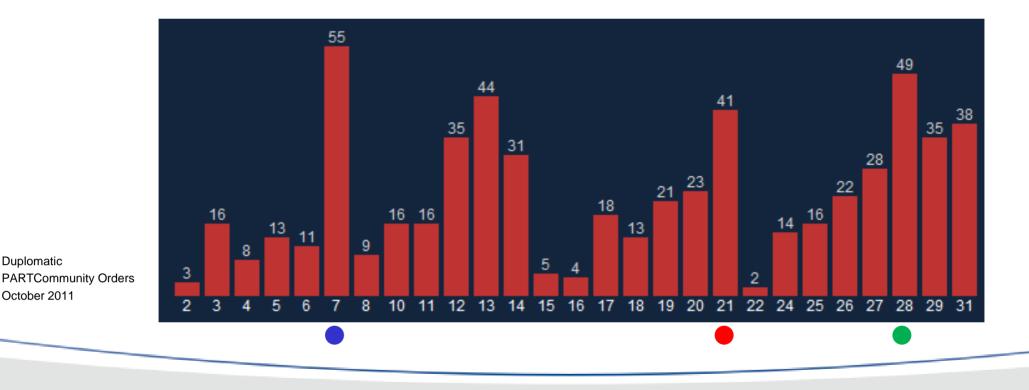
The Duplomatic catalogue has been published on *duplomatic.partcommunity.com* at the end of September 2011. The publication has been announced as follows:

- 7 October: newsletter to all Duplomatic customers •
- **21 October:** presentation to Duplomatic sales network .
- 28 October: sending out of the 3D catalogue handbook to Duplomatic customers •

The chart shows the response to the announcements:

Duplomatic

October 2011



3D catalogue PLUS



Plus for the Technical Area

- Designing time reduction thanks to the available 3D models use
- Possibility to make a preliminary dimensional analysis on the new projects
- Use of 3D models for the integration in the product documentation

Plus for the Sales Area

- Identification of the correct product description with no need for further documentation
- Immediate view of the available options for each product

Plus for the Marketing Area

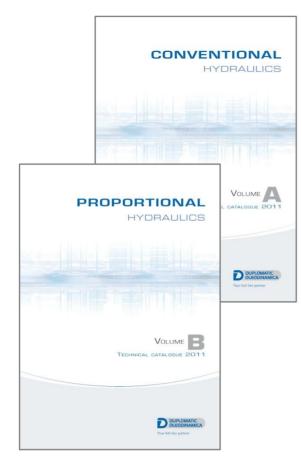
- Increase of the Company visibility
- Increase of the new contacts for promotion activities
- Possibility of focused promotions based on the download statistics analysis

DUPLOMATIC DOCUMENTATION



► Paper catalogue

in 5 languages

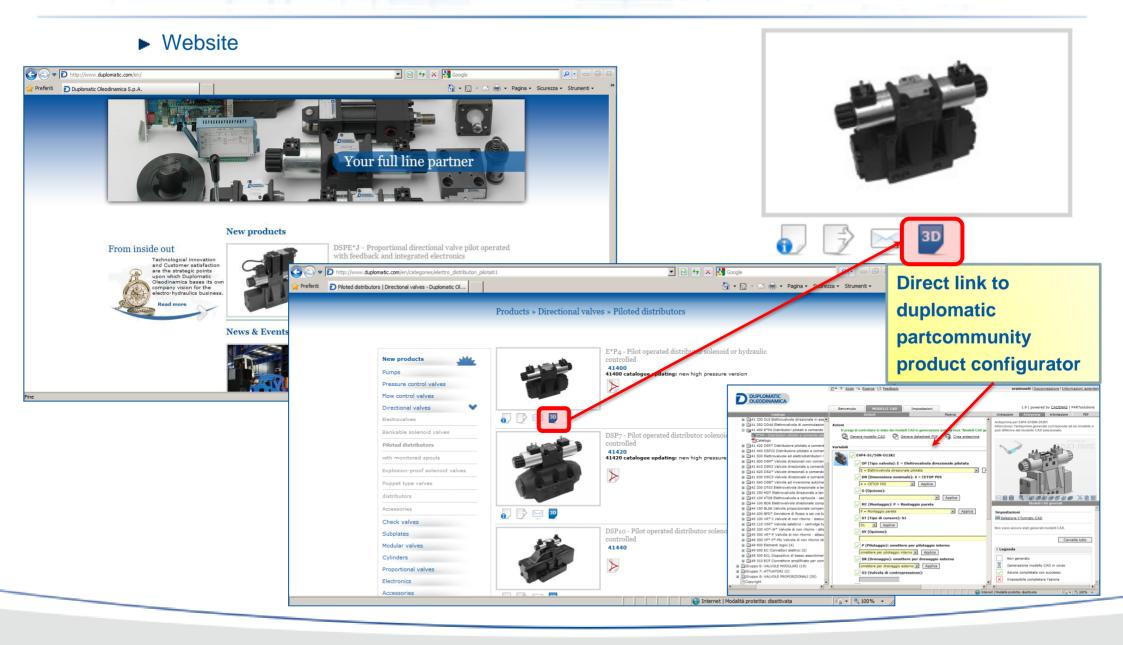


- ► CD catalogue
 - in 7 languages



DUPLOMATIC DOCUMENTATION







thank you!



Your full line partner