

# MSG11-3500/UK Hydraulic Valves Industrial Standard



## Hydraulic Valves Industrial Standard



ENGINEERING YOUR SUCCESS.

Alphanumeric product index, product index by function

### Directional Control Valves

Seated valves, spool valves, direct and pilot operated

2

### Proportional DC Valves

Standard, high repeatability, VCD® performance

3

### Pressure Valves

Subplate and screw-in mounting

4

### Flow Valves

Throttle and flow control valves, subplate and screw-in mounting

5

### Check Valves

Shuttle valves, direct and pilot operated check valves, subplate and screw-in mounting

6

### Sandwich Valves

For pressure, check and flow functions

7

### Slip-In Cartridge Valves

According to ISO 7368, with pressure, directional, flow and check functions

8

### SAE Flange Valves

For pressure, directional, flow and check functions

9

### Valves for Pipe Mounting

With pressure, directional, flow and check functions

10

### Electronics

Amplifiers, axis controllers and accessories

11

### Accessories

Subplates, pressure gauge valves, pressure switches, pressure intensifiers

12



Parker Hannifin Corporation

Series	Description	Direct operated				Pilot operated				Page		
	DIN / ISO	06	10	16	25	32	10	16	25	32		
	<b>Seat valves, electrically operated</b>											
D1SE		•									2-2	
	<b>Spool valves, electrically operated</b>											
D1VW	Standard, soft shift	•									2-5	
D1VW	8 Watt solenoid	•									2-13	
D1VW	Inductive position control	•									2-19	
D1VW	Explosion proof (conform to ATEX and IECEx)	•									2-28	
D1MW	For wash down applications	•									2-33	
D3W	Standard		•								2-39	
D3W	Inductive position control		•								2-46	
D3MW	For wash down applications		•								2-55	
D31DW	Standard and position control						•				2-61	
D31NW	Highest flow						•					
D41VW	Standard and inductive position control							•				
D81/91VW	Standard and inductive position control								•			
D111VW	Standard and inductive position control									•		
	<b>Spool valves, electrically operated, regenerative and hybrid design</b>											
D3DWR	Hybrid configuration with sandwich plate			•							2-74	
D31NWR	Hybrid configuration with sandwich plate						•					
D41VWR/Z								•				
D91VWR/Z									•			
D111VWR/Z										•		
	<b>Spool valves, hydraulically operated</b>											
D1VP		•									2-85	
D3DP			•									
D4P				•								
D9P					•							
D11P						•						
	<b>Spool valves, pneumatically operated</b>											
D1VA		•									2-96	
	<b>Spool valves, mechanically operated</b>											
D1VL		•									2-100	
D3DL			•									
D4L				•								
D9L					•							
	<b>Accessories</b>											
	Plugs											
	Actuator kits											
	O-rings and seal kits											
	Slip-in orifices											
	Mounting patterns											

Series	Description	Size	Oper- ation		Elec- tronics		LVDT	Spool Design			Page
		DIN/ISO	direct	pilot	external	onboard		Overlap	Zero lap	Spool/ sleeve	
Introduction											
	<b>Standard</b>										
D1FB		NG06	•		•			•	optional	optional	3-3
D1FB OBE		NG06	•		•			•	optional	optional	3-14
D3FB		NG10	•		•			•	optional	optional	3-24
D3FB OBE		NG10	•	•	•			•	optional	optional	3-24
D31FB		NG10	•	•	•			•	optional	optional	3-24
D31FB OBE		NG10	•	•	•			•	optional	optional	3-24
D41FB		NG16	•	•	•			•	optional	optional	3-40
D41FB OBE		NG16	•	•	•			•	optional	optional	3-40
D91FB		NG25	•	•	•			•	optional	optional	3-40
D91FB OBE		NG25	•	•	•			•	optional	optional	3-40
D111FB		NG32	•	•	•			•	optional	optional	3-40
D111FB OBE		NG32	•	•	•			•	optional	optional	3-40
D1FV*3	Pilot valve	NG06	•	•	•			•	optional	optional	3-40
D1FV*3 OBE	Pilot valve	NG06	•	•	•			•	optional	optional	3-40
	<b>High repeatability</b>										
D1FC		NG06	•		•			•	•	•	3-48
D3FC		NG10	•		•			•	•	•	3-56
D31FC		NG10	•	•	•			•	•	•	3-64
D41FC		NG16	•	•	•			•	•	•	3-75
D91FC		NG25	•	•	•			•	•	•	3-75
D111FC		NG32	•	•	•			•	•	•	3-75
D*FC, D*1FC	EtherCAT	•	•	•	•			•	•	•	3-75
	<b>VCD® performance*, for closed loop applications</b>										
D1FP		NG06	•		•			•	•	•	3-78
D3FP		NG10	•		•			•	•	•	3-85
D1FP*D	w. freely config. control circuit	NG06	•		•			•	•	•	3-92
D3FP*D	w. freely config. control circuit	NG10	•		•			•	•	•	3-103
D30FP		NG10	•		•			•	•	•	3-110
D31FP		NG10	•		•			•	•	•	3-121
D41FP		NG16	•		•			•	•	•	3-121
D91FP		NG25	•		•			•	•	•	3-121
D111FP		NG32	•		•			•	•	•	3-121
D*FP, D*1FP	EtherCAT	•	•	•	•			•	•	•	3-121
	<b>Accessories</b>										
	Plug-in connectors										3-124
	Actuator kits / coil kits										3-125
	Mounting patterns										3-126

\* VCD® = Voice Coil Drive technology

Series	Description	Size				Mounting		Operation		Page			
	Parker Standard DIN / ISO	06	10	06	10	25	32	Subplate	Panel	Screw-in	Direct	Pilot	
	<b>Pressure relief valves, manual operation</b>												
VS				•	•			•			•	•	4-2
VB				•	•			•			•	•	4-5
VBY				•	•			•			•	•	4-10
EVSA				•	•			•			•	•	4-15
R1E02	Remote control valve	•	•					•	•	•	•	•	4-18
R4V/R6V				•	•	•	•	•			•	•	4-21
R4V/R6V	According to directive 97/23/EG (TÜV)			•	•	•	•	•			•	•	4-30
	<b>Pressure relief valves, proportional operation</b>												
RE06M*W				•				•			•		4-39
RE06M*T				•				•			•		4-43
R4V/R6V				•	•	•	•	•			•		4-49
R4V/R6V	Onboard electronics			•	•	•	•	•			•		4-55
VBY*K				•	•	•	•	•			•		4-63
	<b>Unloading and sequence valves, manual operation</b>												
R4U				•	•	•	•	•			•		4-69
R4S				•	•	•	•	•			•		4-75
	<b>Pressure reducing valves, manual operation</b>												
VM				•	•			•			•		4-78
R4R				•	•	•	•	•			•		4-83
	<b>Pressure reducing valves, proportional operation</b>												
VMY				•	•			•			•		4-87
R4R				•	•	•	•	•			•		4-95
	<b>Accessories</b>												
	Plug-in connectors												4-99

More pressure valves are presented in the following chapters:

- Chapter 7: Sandwich Valves
- Chapter 8: Slip-In Cartridge Valves
- Chapter 9: SAE Flange Valves
- Chapter 10: Valves for Pipe Mounting

Series	Description	Size						Mounting		Page		
	Parker Standard DIN / ISO	1/4	3/8	1/2	3/4	1	06	10	16	Subplate	Screw-in	
	<b>Throttle valves, manual adjustment</b>											
MVI		•	•	•	•						•	5-2
NS		•	•	•	•	•					•	5-4
FS	With free return flow	•	•	•	•	•					•	5-6
	<b>Flow control valves, manual adjustment</b>											
PCMS		•	•	•	•	•					•	5-8
GFG2							•				•	5-10
2F1C							•	•	•		•	5-14
	<b>Flow control valves, proportional adjustment</b>											
DUR*L							•				•	5-20

More flow valves are presented in the following chapters:

- Chapter 7: Sandwich Valves
- Chapter 8: Slip-In Cartridge Valves
- Chapter 9: SAE Flange Valves
- Chapter 10: Valves for Pipe Mounting

Series	Description	Size										Mounting	Page			
	Parker Standard DIN / ISO	1/8	1/4	3/8	1/2	3/4	1	06	10	16	25	32	Subplate	Screw-in	Slip-in	
	<b>Shuttle valves</b>							•	•				•			
SSR																6-2
	<b>Check valves, direct operated</b>															
RK / RB		•	•	•	•	•	•						•			6-4
CS		•	•	•	•	•	•						•			6-7
SPZBE																6-9
SPV / SPZ																6-11
C4V																6-13
	<b>Check valves, pilot operated</b>															
C4V									•				•	•	•	6-16
	<b>2/2-way seat valves</b>															
D4S									•				•	•	•	6-19
	<b>Accessories</b>															
	Plugs															6-29

More check valves are presented in the following chapters:

- Chapter 7: Sandwich Valves
- Chapter 8: Slip-In Cartridge Valves
- Chapter 9: SAE Flange Valves
- Chapter 10: Valves for Pipe Mounting

Series	Description	Size				Page	
		DIN / ISO	06	10	16	25	
	<b>DC valve</b>						
Z1DW	Shut-off valve						7-2
	<b>Pressure relief valves, manual operation</b>						
RDM	Direct operated	•	•				7-9
RM	Pilot operated	•	•	•			7-13
ZDV	Pilot operated, high performance	•	•	•	•		7-18
	<b>Pressure reducing valves, manual operation</b>						
PRDM	Direct operated, 3-way	•	•				7-22
PRM	Pilot operated, 2-way	•	•	•			7-27
ZDR	Pilot operated, 2-way, high performance	•	•	•	•		7-31
	<b>Pressure reducing valves, proportional operation</b>						
PRPM	Pilot operated, 3-way	•	•				7-35
	<b>Pressure compensators</b>						
LCM	2-way pressure compensator	•	•				7-39
	<b>Throttle check valves</b>						
FM		•	•	•	•		7-40
ZRD	High performance	•	•				7-48
	<b>Check valves</b>						
CM		•	•				7-52
ZRV		•	•				7-58
	<b>Check valves, pilot operated</b>						
CPOM		•	•	•	•		7-61
ZRE	High performance	•	•	•	•		7-66
	<b>Counterbalance valves</b>						
ZNS	Pilot operated	•	•				7-69
	<b>Information</b>						
	Mounting patterns, general information						7-72

Further sandwich valves are presented in chapter 8 „slip-in cartridge valves“, see „accessories, pilot valves“

Series	Description	Size									Page
	DIN / ISO	16	25	32	40	50	63	80	100	125	
<b>2-way slip-in cartridge valves</b>											
CE / CP C*A C*B C*C C*F C*G C*H C*V C*W	Introduction, hydraulic symbols, installation dimensions	.	.	.	.	.	.	.	.	.	8-2
	2-way cartridge	.	.	.	.	.	.	.	.	.	8-4
	Cover without auxiliary function	.	.	.	.	.	.	.	.	.	8-8
	Cover with stroke limiter	.	.	.	.	.	.	.	.	.	8-9
	Cover for pilot system mounting	.	.	.	.	.	.	.	.	.	8-11
	Cover for pressure relief function	.	.	.	.	.	.	.	.	.	8-14
	Cover for pressure relief function plus pilot system mounting	.	.	.	.	.	.	.	.	.	8-15
	Cover with stroke limiter and DC valve mounting	.	.	.	.	.	.	.	.	.	8-16
	Cover with shuttle valve	.	.	.	.	.	.	.	.	.	8-19
Cover with shuttle valve plus pilot system mounting	.	.	.	.	.	.	.	.	.	8-20	
<b>Accessories</b>											
	Pilot valves										8-21
	Cover-, sandwich, adaptor plates										8-31
	Spare parts, seal kits										8-33
	Orifice diagram, orifice kits										8-34
	Extracting tools										8-35
<b>Complete valves and combination examples, pressure function</b>											
R / RS*E DSDU RE*E*W RE*E*T UR*E/US*E	Pressure relief valves, manual adjustment	.	.	.	.	.	.	.	.	.	8-36
	Pilot operated pressure relief valve	.	.	.	.	.	.	.	.	.	8-42
	Pressure relief valves, proportional adjustment	.	.	.	.	.	.	.	.	.	8-45
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<b>Complete valves and combination examples, 2-way and check function</b>											
C1DB SVLB	Direct operated check valve	.	.	.	.	.	.	.	.	.	8-79
	Pilot operated check valve	.	.	.	.	.	.	.	.	.	8-81
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<b>Complete valves, directional function with position control</b>											
C10C*E		.	.	.	.	.	.	.	.	.	8-89
<b>Complete valves, active cartridges</b>											
TDW		.	.	.	.	.	.	.	.	.	8-95
<b>Complete valves, flow function</b>											
TDA TEA TDC TDP TEP TFP TPQ	2-way proportional throttle valve	.	.	.	.	.	.	.	.	.	8-106
	2-way proportional throttle valve with shut-off valve	.	.	.	.	.	.	.	.	.	8-110
	2-way high performance proportional throttle valve	.	.	.	.	.	.	.	.	.	8-113
	2-way servo proportional valve with VCD® technology	.	.	.	.	.	.	.	.	.	8-121
	2-way servo proportional valve with shut-off valve	.	.	.	.	.	.	.	.	.	8-131
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Series	Description	Size				Mounting		Configuration		Page	
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	<b>Pressure valves, manual operation</b>										
R5V	Pressure relief function	•	•	•	•	•	•	•	•	9-2	
R5U	Pressure unloading function	•	•	•	•	•	•	•	•	9-7	
R5S	Pressure sequence function	•	•	•	•	•	•	•	•	9-12	
	<b>Pressure valves, proportional operation</b>										
R5V*P2	Pressure relief function	•	•	•	•	•	•	•	•	9-15	
	<b>Directional seat valves</b>										
D5S		•	•	•	•	•	•	•	•	9-20	
	<b>Flow valves</b>										
F5C	Throttle valves, proportional	•	•	•	•	•	•	•	•	9-30	
R5P	3-way pressure compensator	•	•	•	•	•	•	•	•	9-34	
	<b>Check valves</b>										
C5V	Direct operated	•	•	•	•	•	•	•	•	9-41	
	<b>Accessories</b>										
	Bolt kits, flanges, plugs										9-45

Series	Description	Size								Body	Page		
	DIN / ISO	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	L-port T-port		
	<b>Pressure valves, manual operation</b>												
R4V	Pressure relief function				•	•	•	•			•	10-2	
R4R	Pressure reducing function			•	•	•	•				•	10-8	
	<b>Pressure valves, proportional operation</b>												
R4V*P2	Pressure relief function				•	•	•	•			•	10-14	
R4R*P2	Pressure reducing function			•	•	•	•				•	10-19	
	<b>Directional seat valves</b>												
D4S	In-line mounted				•	•	•	•			•	10-24	
	<b>Flow valves</b>												
MV / 9MV	Throttle valve, with handle	•	•	•	•	•	•	•				10-33	
N / 9N	Throttle valve, with knob	•	•	•	•	•	•	•				10-35	
F / 9F	Throttle check valve, with knob	•	•	•	•	•	•	•	•			10-37	
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	<b>Check valves</b>												
C / 9C	Direct operated	•	•	•	•	•	•	•				10-41	
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	<b>Accessories</b>												
	Plug-in connectors												10-46

Series	Description	For use with												Page
		D*FB, D*1FB D*FB, D*1FB OBE D*FC, D*1FC D*FP, D*1FP R4V, R6V, R4R R4V, R6V OBE RE06M*W RE06M*T VMY, VBY DUR*L PRPM TDA, TEA TDP, TPQ RE*EW RE*ET R5V, R5R												
	<b>Amplifiers for proportional valves</b>													
PWD00	For valves w/o position transducer	•												11-2
PWDXX	For valves with position transducer or valves in closed loop systems	•			•	•	•	•	•	•	•	•	•	11-8
PCD00	For up to 2 single solenoid valves w/o transducer			•	•	•	•	•	•	•	•	•	•	11-12
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PZD00	Min/max adjustment, 6 command channels, 6+1 ramps	•	•	•	•	•	•					•	•	11-16
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PID00	For position, pressure and speed control in closed loop systems	•	•	•	•	•	•					•	•	11-20
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<b>Series</b>	<b>Description</b>	<b>Size</b>									<b>Page</b>	
	DIN / ISO	06	10	16	25	32	40	50	63	80		
	<b>Subplates</b>											
SPD	Subplates, BSPP threads, DC valves	•	•	•	•						12-2	
A	Subplates, metric threads, DC valves	•	•								12-7	
SPP	Subplates, BSPP threads, pressure valves, DIN / ISO		•		•	•					12-8	
A102	Subplates for pressure valves, styles VB and VM		•								12-11	
MSP	Multi-station manifold, DC valves	•	•								12-12	
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	<b>Accessories for manifolds and systems</b>											
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SD500	Pressure intensifiers										12-53	

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C*A	2-way slip-in cartridge valve without auxiliary function	8-8
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C*C	2-way slip-in cartridge valve for pilot system mounting	8-11
C*F	2-way slip-in cartridge valve for pressure relief function	8-14
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D1VW	DC valve, direct operated	2-5
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