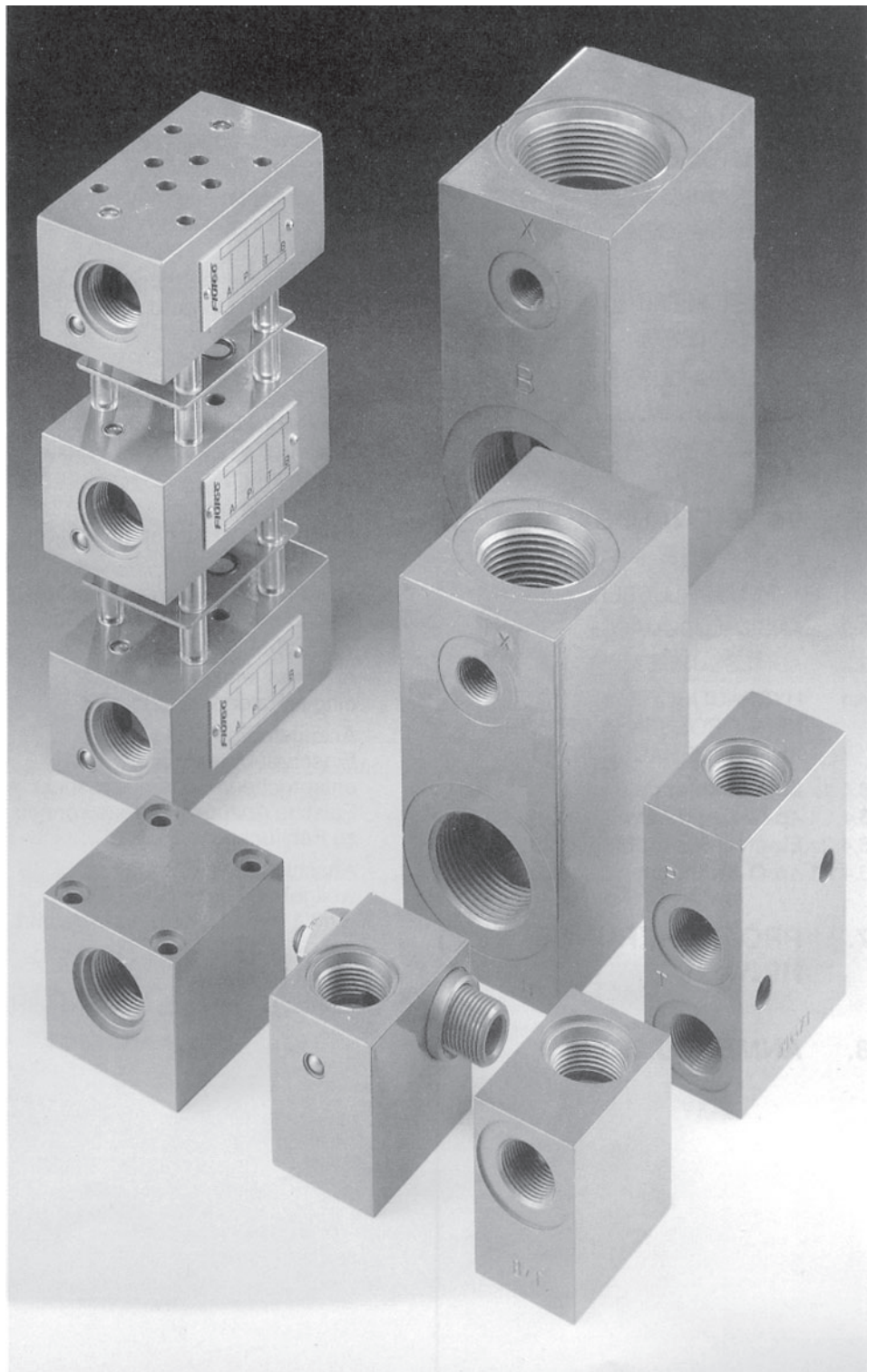


HYDAC

INTERNATIONAL

Connection Housings for Cartridge Valves

Inline connection housings
Sandwich plate housings
Manifold housings



INDEX HOUSING BROCHURE

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1. DESCRIPTION

1.1. GENERAL

The wide range of valve connection housings provides highly flexible solutions to oil hydraulic control functions.

Different valve functions in the same housing are possible due to the use of standardised threaded ports for cartridge valves of the same size and interface. The user therefore has a wide range of housings available. Depending on the control function required, pressure control, flow control, shut-off, directional and special valves are used.

The following types are available as standard:

- inline connection housing ISO/metric, see point 4
- inline connection housing UNF, see point 5
- sandwich plate housing with standard interface, see point 6
- manifold housing with standard interface, see point 7

1.2. RECOMMENDATIONS

To ensure correct and safe operation the following points have to be taken into account:

- installation dimensions of cartridge valve and housing must correspond
- port configuration of cartridge valve and housing must correspond
- connection according to valve function used
- torque of cartridge valve in accordance with technical details in the corresponding valve literature - the wrong torque can cause malfunctions
- connection threads are largely to DIN 3852, page 1 or 2, form X
- interfaces to DIN 24340 and Cetop R 35 mounting height to Cetop RP99H

2. TECHNICAL SPECIFICATIONS

2.1. GENERAL

Hydraulic and technical details as per relevant valve literature.

2.1.1 **Type of construction**

Inline connection housing ISO/metric

Type R ...

Type A ...

Type X...

Inline connection housing UNF

Type FH ...

Sandwich plate housing

Type Z ...

Manifold housing

Type D ...

2.1.2 **Type of mounting**

Depending on the housing type, by means of pipes, through-holes or tie rods.

2.1.3 **Mounting position**

Restrictions regarding cartridge valves to be taken into account.

Correct mounting position of sandwich plate and manifold housings to be taken into account.

2.1.4 **Weights**

See points 4 - 7.

2.1.5 **Material**

Free-cutting steel

For sandwich plate housing type ZAB08021-02X, aluminium

For UNF connection housings, free-cutting steel and aluminium

2.1.6 **Surface treatment**

Inline connection housing ISO/metric

Type R...

Type A...

Type X...

Zinc-plated and yellow-chromed coating EN 12329-Fe//Zn5-8//C/T4

Inline connection housing

Type FH...

Zinc-plated and blue-chromed coating EN 12329-Fe//Zn5-8//B/T4

Sandwich plate housing

Type Z...

Phosphate-plated coating EN 12476-Fe//Znph/r/3/T4 (not for type ZAB08021-02X)

Manifold housing

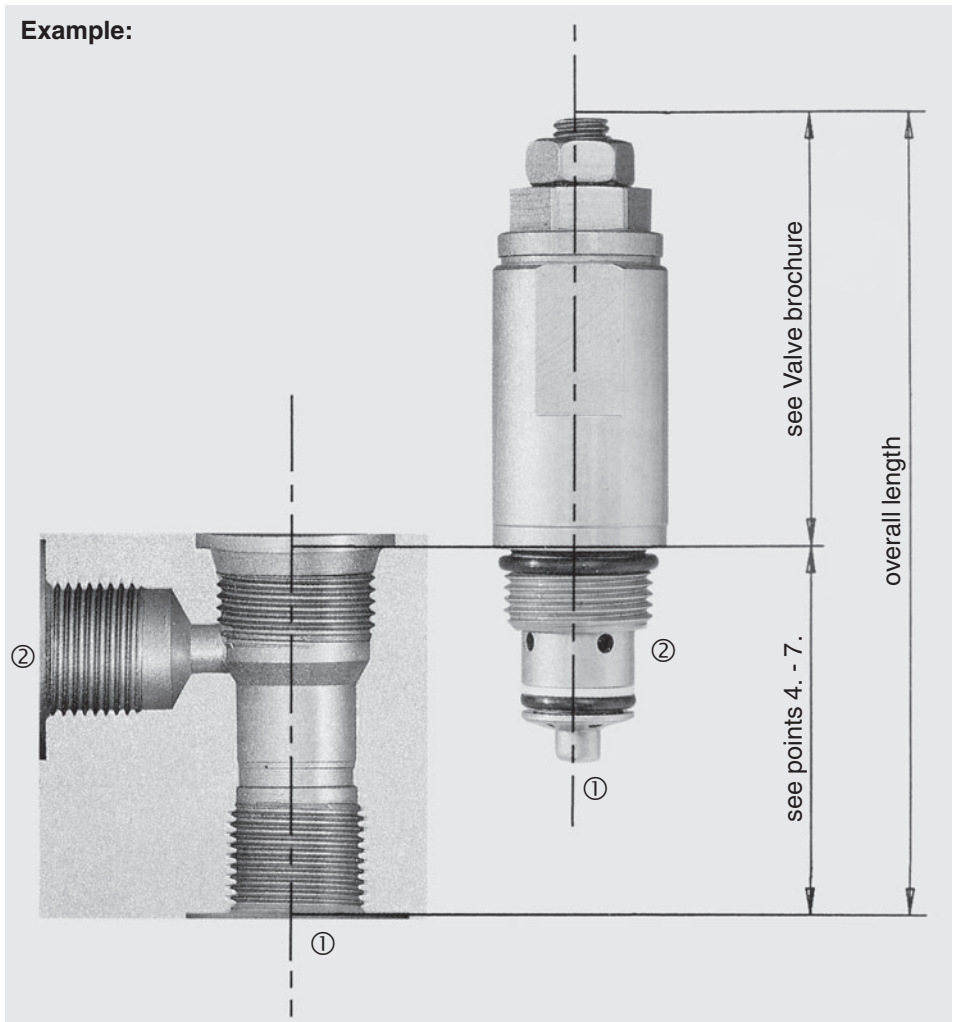
Type D...

Phosphate-plated coating EN 12476-Fe//Znph/r/3/T4

3. DIMENSIONS

3.1. GENERAL

In order to determine the overall dimensions (valve and housing) please refer to the appropriate valve brochures.



4. INLINE CONNECTION HOUSINGS ISO/metric

4.1. MODEL CODE

R 06020 - 01 X - 01

R: Inline connection housing

A: Cylinder connection housing

X: Internal valve housing

Installation dimensions of cartridge valve

see valve brochure

Type

(describes individual condition; e. g. surface, dimensions, functional properties ...)

Series

(determined by manufacturer)

Housing connection thread

see point 4.2.

4.2. DIMENSIONS

Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
277440	R03230-01X-01	① G 1/4 ② G 1/4 ③ G 1/4	<p>Weight: 0.67 kg</p>	WSE 3	5.203
275266	R06020-01X-01	① G 3/8 ② G 3/8	<p>Weight: 0.45 kg</p>	DB4E DSR5E DZ5E PDB 06020 DV5E SR5E RV5E	5.161 393400 5.166 5.164 5.113 5.117 5.175
276842	R06020-10X-01	① G 3/8 ② G 3/8	<p>Weight: 0.44 kg</p>	WSM06020Z WSM06020ZR WSM06020Y WSM06020YR WSM06020W WSM06020V	5.943 5.946 5.947 5.948 5.949 5.949.1
275033	R08021-01X-01 Plug Port 3 when using ERVM-G1/2	① G 3/8 ② G 3/8 ③ G 1/4	<p>Weight: 0.77 kg</p>	ERVE-R 1/2 SBVE-R 1/2 RPR08021-01 ERVM-G1/2	5.172 5.177 396487 283843
283841	R08021-10X-01 Plug Port 3 when using ERVM-G1/2	① G 3/8 ② G 3/8 ③ G 1/4	<p>Weight: 0.76 kg</p>	ERVE-R 1/2 SBVE-R 1/2 RPR08021-01 ERVM-G1/2	5.172 5.177 396487 283843

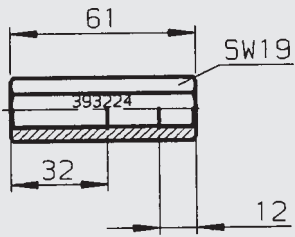
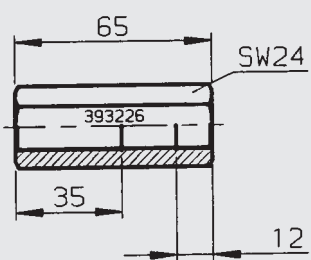
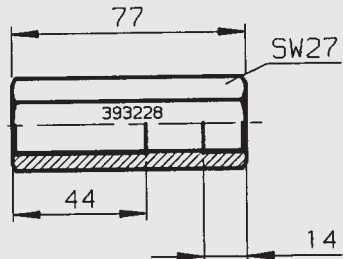
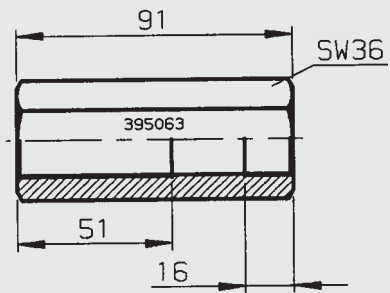
Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
283025	R08030-01X-01	① G 3/8 ② G 3/8 ③ G 3/8	<p>Weight: 0.74 kg</p>	DMVE-G 1/2	5.162
394488	R08130-01X-01	① G 3/8 ② G 3/8 ③ G 3/8	<p>Weight: 0.70 kg</p>	PDM08130 WSEC08130 WSED08130 WKM08130C WKM08130D WKM08130L WSM08130D	5.168 5.935 5.934 5.976 5.977
394378	R08130-01X-02	① M 14x1.5 ② M 14x1.5 ③ M 14x1.5	<p>Weight: 0.70 kg</p>		
394473	R08140-01X-01	① G 3/8 ② G 3/8 ③ G 3/8 ④ G 3/8	<p>Weight: 0.86 kg</p>	WKM08140Y WKM08140X WKM08140A WKM08140Z WKM08140K WKM08140P WKM08140EB	5.942 5.985
393535	R08140-01X-02	① M 14x1.5 ② M 14x1.5 ③ M 14x1.5 ④ M 14x1.5	<p>Weight: 0.86 kg</p>	5.981	
395232	R10120A-01X-01	① G 1/2 ② G 1/2	<p>Weight: 1.04 kg</p>	DB10120A DB10-13X PDBM10120AP	5.167 3122049 5.978
395233	R10120A-01X-02	① M 22x1.5 ② M 22x1.5	<p>Weight: 1.04 kg</p>		

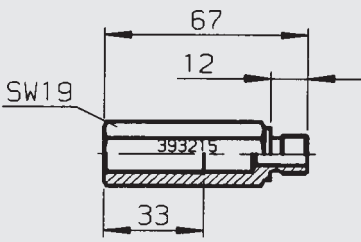
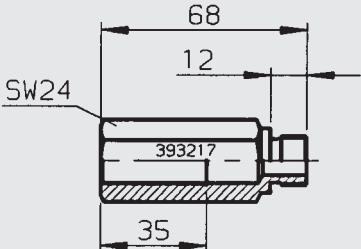
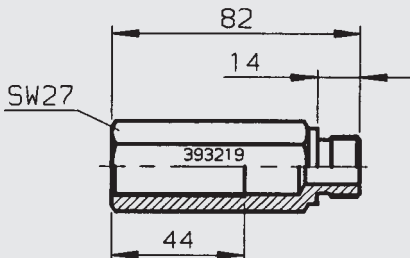
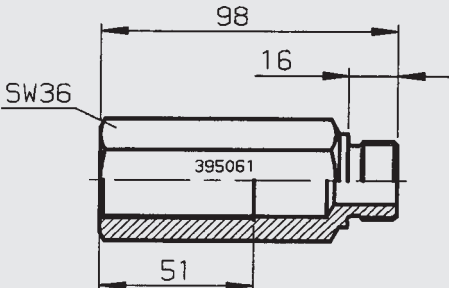
Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
395234	R10120-01X-01	① G 1/2 ② G 1/2		RV10120	5.179
				SD10120	5.114
				WSE10120	5.206
				RVM10120	5.999
395235	R10120-01X-02	① M 22x1.5 ② M 22x1.5			
				Weight: 1.04 kg	
395236	R10121-01X-01	① G 1/2 ② G 1/2 ③ G 1/4		RP 10121	284115
				RPL 10121	395294
395237	R10121-01X-02	① M 22x1.5 ② M 22x1.5 ③ M 14x1.5			
				Weight: 1.45 kg	
395238	R10130-01X-01	① G 1/2 ② G 1/2 ③ G 1/2		DM 10130	284475
				SRA10130	284857
				PDM10130	
				WKM10130C	
				WKM10130D	
				WKM10130L	
395239	R10130-01X-02	① M 22x1.5 ② M 22x1.5 ③ M 22x1.5			
				Weight: 1.48 kg	

Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
396489	R12120A-01X-01	① G 3/4 ② G 3/4	<p style="text-align: right;">Weight: 1.40 kg</p>	DB 12120 A	5.169.1
396708	R12120-10X-01	① G 3/4 ② G 3/4	<p style="text-align: right;">Weight: 1.39 kg</p>	WSE 12120	396324
396707	R12120-10X-02	① M 27x2 ② M 27x2	<p style="text-align: right;">Weight: 1.39 kg</p>		
3130704	R12121-01X-01	① G 3/4 ② G 3/4 ③ G 3/8	<p style="text-align: right;">Weight: 1.89 kg</p>	DB12121PE DB12121PF PDB12121PE PDB12121PF	5.996 5.997

Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
560705	R12230-01X-01	① G 1/2 ② G 3/4 ③ G 1/2	<p>t=45 Weight: 2.40 kg</p>	ST12230	560637
277051	R16021-01X-01	① G 1 ② G 1 ③ G 1/4	<p>t=50 Weight: 2.52 kg</p>	ERVE-R1 SBVE-R1	5.172 5.177
275276	R20021-01X-01	① G 1 1/4 ② G 1 1/4 ③ G 1/4	<p>t=60 Weight: 4.60 kg</p>	ERVE-R1 1/2	5.172

Stock No.	Model Code	Thread Size	Dimensions	Cartridge Valve	
				Type	Brochure/ Data Sheet No.
562795	A06020-04X-01	① G 3/8 ② G 3/8	<p>Weight: 0.56 kg</p>	WSM06020Z	5.943
				WSM06020ZR	5.946
				WSM06020Y	5.947
				WSM06020YR	5.948
				WSM06020W	5.949
				WSM06020V	5.949.1
396774	A06020-14X-01	① G 1/2 ② G 1/2	<p>Weight: 0.92 kg</p>	WSM06020Z	5.943
				WSM06020ZR	5.946
				WSM06020Y	5.947
				WSM06020YR	5.948
				WSM06020W	5.949
				WSM06020V	5.949.1

Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
393224	XX05520-01X	G 1/4		SRE 1	5.118
				RBE-R 1/4	5.174
	on request	M 14x1.5			
				Weight: 0.09 kg	
393226	XX08520-01X	G 3/8		SRE 2	5.118
				RBE-R 3/8	5.174
	on request	M 18x1.5			
				Weight: 0.15 kg	
393228	XX10520-01X	G 1/2		SRE 3	5.118
				RBE-R 1/2	5.174
	on request	M 22x1.5			
				Weight: 0.19 kg	
395063	XX12520-01X	G 3/4		SRE 4	5.118
				RBE-R 3/4	5.174
	on request	M 27x2			
				Weight: 0.44 kg	

Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
393215	XB05520-01X	G 1/4		SRE 1	5.118
				RBE-R 1/4	5.174
	on request	M 14x1.5			
				Weight: 0.09 kg	
393217	XB08520-01X	G 3/8		SRE 2	5.118
				RBE-R 3/8	5.174
	on request	M 18x1.5			
				Weight: 0.14 kg	
393219	XB10520-01X	G 1/2		SRE 3	5.118
				RBE-R 1/2	5.174
	on request	M 22x1.5			
				Weight: 0.20 kg	
395061	XB12520-01X	G 3/4		SRE 4	5.118
				RBE-R 3/4	5.174
	on request	M 27x2			
				Weight: 0.43 kg	

5. CONNECTION HOUSINGS UNF

5.1. MODEL CODE

FH 082 - S - S6

Inline connection housing

Installation dimensions of cartridge valve

See valve brochure

Material of housing

S = free cutting steel

A = aluminium

Housing connection thread

S6 = SAE 6 N3 = 3/8" NPTF

S8 = SAE 8 N4 = 1/2" NPTF

S12 = SAE 12 N8 = 1" NPTF

S16 = SAE16

B3 = 3/8" BSP

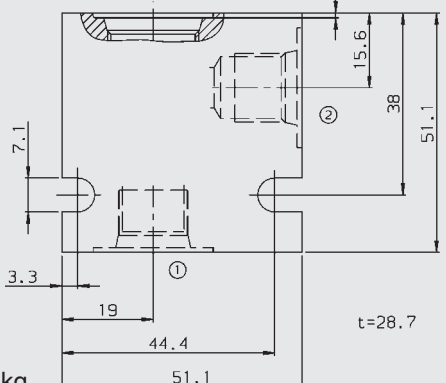
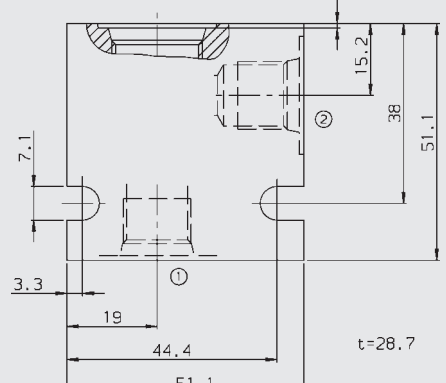
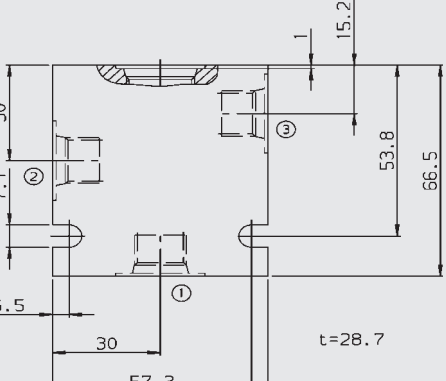
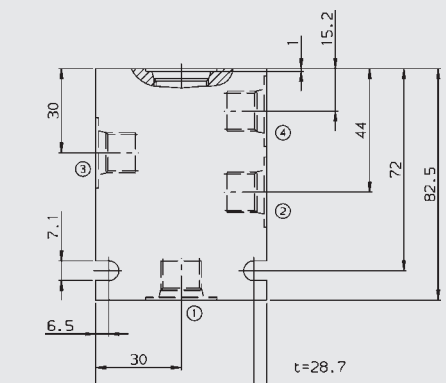
B4 = 1/2" BSP

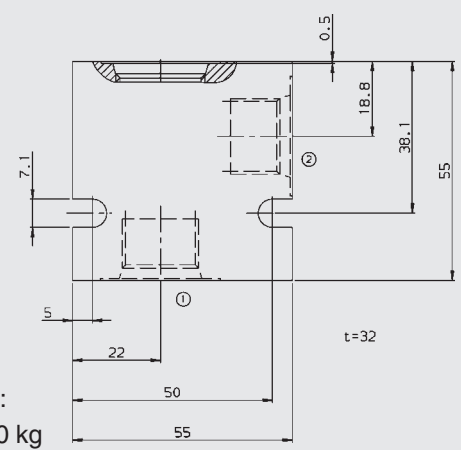
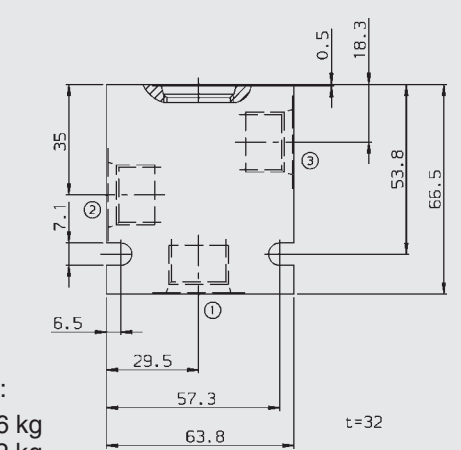
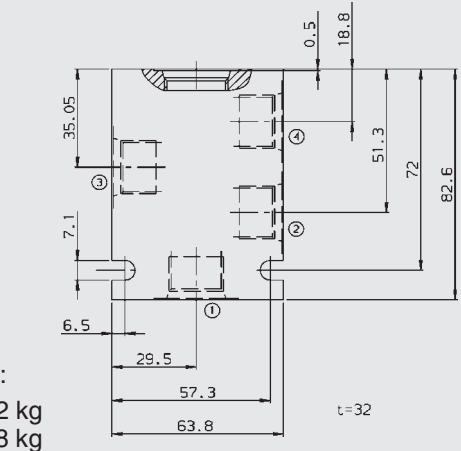
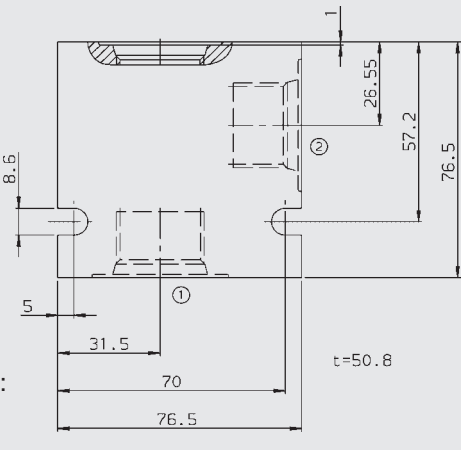
B6 = 3/4" BSP

B8 = 1" BSP

Others on request

5.2. DIMENSIONS

Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
3067477	FH0812-AB3	① 3/8"BSP	 <p>Weight: Al: 0.15 kg St: 0.42 kg</p>	WK081W-01	5.956
3067468	FH0812-SB3	② 3/8"BSP		WS081Z-01	5.980
3067619	FH0812-AN3	① 3/8"NPTF		WS081ZR-01	5.979
3067472	FH0812-SN3	② 3/8"NPTF		WS081Y-01	5.987
3067518	FH0812-AS6	① SAE6		WS081YR-01	5.986
3076471	FH0812-SS6	② SAE6			
3011423	FH082-AB3	① 3/8"BSP	 <p>Weight: Al: 0.15 kg St: 0.42 kg</p>	WS08ZR-01J	5.984
560919	FH082-SB3	② 3/8"BSP		DB08A	5.922
3011411	FH082-AN3	① 3/8"NPTF		DB08P	5.922.1
560918	FH082-SN3	② 3/8"NPTF		RV08A	5.912
3011409	FH082-AS6	① SAE6		SD08-01	5.928
560917	FH082-SS6	② SAE6		SR08-01	5.930
			WS08Z-01	5.907	
			WS08ZR-01	5.911	
			WS08Y-01	5.917	
			WS08YR-01	5.908	
			WS08W-01	5.924	
			WK08W-01	5.925	
			WK08V-01	5.918	
			WS08WM-01		
			WS08WL-01		
			WS08Z-01J	5.983	
			PDB08P-01	5.991.1	
			WS08Z-30	5.993	
			WS08Y-30	5.992	
			WS08W-30	5.994	
3011427	FH083-AB3	① 3/8"BSP	 <p>Weight: Al: 0.25 kg St: 0.70 kg</p>	DR08-01	5.920
560922	FH083-SB3	② 3/8"BSP		RP08A	5.923
		③ 3/8"BSP		RS08-01	5.933
3011425	FH083-AN3	① 3/8"NPTF		SRP08-01	5.929
560921	FH083-SN3	② 3/8"NPTF		WK08L-01	5.913
3011424	FH083-AS6	① SAE6		WK08C-01	5.906
560920	FH083-SS6	② SAE6		WK08D-01	5.915
3116230	FH083-SM14F	① M14x1,5	WS08D-01		
		② M14x1,5	DR08P-01	5.920.1	
		③ M14x1,5	PDR08P-01	5.990.1	
			PDR08-01	5.990.2	
			PDR08-10		
			PDR08-20		
3011407	FH084-AB3	① 3/8"BSP	 <p>Weight: Al: 0.31 kg St: 0.86 kg</p>	WK08Y-01	5.905
563383	FH084-SB3	② 3/8"BSP		WK08X-01	5.919
		③ 3/8"BSP		WK08A-01	5.910
3011406	FH084-AN3	① 3/8"NPTF		WK08Z-01	5.916
563382	FH084-SN3	② 3/8"NPTF		WK08K-01	5.904
		③ 3/8"NPTF		WK08P-01	5.909
		④ 3/8"NPTF			
3011404	FH084-AS6	① SAE6			
563381	FH084-SS6	② SAE6			
		③ SAE6			
		④ SAE6			

Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve	
				Type	Brochure/ Data Sheet No.
3037777	FH102-AB4	① 1/2"BSP	 <p>Weight: Al: 0.20 kg St: 0.54 kg</p>	DB10P-01	5.954
3037594	FH102-SB4	② 1/2"BSP		RV10A-01	5.953
3037779	FH102-AN4	① 1/2"NPTF		SR10-01	5.958
3037599	FH102-SN4	② 1/2"NPTF		WS10Z-01	5.926
3037778	FH102-AS8	① SAE8		WS10ZR-01	5.927
3037612	FH102-SS8	② SAE8		WS10Y-01	5.914
				WS10YR-01	5.921
				WK10W-01	5.969
				WK10V-01	5.970
				SDR10A-01	5.988
				PDB10P-01	5.991
				SD10-01	5.989
3038092	FH103-AB4	① 1/2"BSP	 <p>Weight: Al: 0.26 kg St: 0.72 kg</p>	DR10-01	5.950
3037697	FH103-SB4	② 1/2"BSP		RP10A-01	5.932
3038093	FH103-AN4	① 1/2"NPTF		WK10L-01	5.959
3037743	FH103-SN4	② 1/2"NPTF		WK10C-01	5.963
3038095	FH103-AS8	③ 1/2"NPTF		WK10D-01	5.964
3037704	FH103-SS8	③ SAE8		WS10C-01	
				WS10D-01	
				DR10P-01	5.982
				PDR10P-01	5.990
				WK10C-40	5.995
3038097	FH104-AB4	① 1/2"BSP	 <p>Weight: Al: 0.32 kg St: 0.88 kg</p>	WK10G-01	5.938
3037784	FH104-SB4	② 1/2"BSP		WK10E-01	5.937
3038109	FH104-AN4	③ 1/2"BSP		WK10H-01	5.936
3037932	FH104-SN4	④ 1/2"BSP		WK10J-01	5.939
3038110	FH104-AS8	① 1/2"NPTF		WK10Y-01	5.971
3037868	FH104-SS8	② 1/2"NPTF		WK10X-01	5.961
				WK10A-01	5.968
				WK10Z-01	5.960
				WK10K-01	5.966
				WK10P-01	5.972
				WKH10C-01	
				ST10-01	5.967
				WK10R-01	5.962
				WK10F-01	
3053843	FH122-AB6	① 3/4"BSP	 <p>Weight: Al: St:</p>	RV12A-01	5.952
3053782	FH122-SB6	② 3/4"BSP		WS12Z-01	5.998
3053845	FH122-AS12	① SAE12		WS12ZR-01	5.998.1
3053772	FH122-SS12	② SAE12		WS12Y-01	5.998.2
				WS12YR-01	5.998.3
				DB12P-01	5.922.2
				PDB12P-01	5.991.2

Stock No.	Model Code	Thread Size	Dimensions	Cartridge valve		
				Type	Brochure/ Data Sheet No.	
3053872	FH123-AB6	① 3/4"BSP				
3053908	FH123-SB6	② 3/4"BSP				
3053897	FH123-AS12	① SAE12				
3053909	FH123-SS12	③ SAE12				
			Weight: Al: St:			
3054099	FH124-AB6	① 3/4"BSP				
3054097	FH124-SB6	② 3/4"BSP				
3054208	FH124-AS12	① SAE12				
3054206	FH124-SS12	④ SAE12				
			Weight: Al: St:			
3037193	FH162-AB8	① 1"BSP		RV16A-01	5.951	
3032496	FH162-SB8	② 1"BSP			WS16Z-01	5.945
3037207	FH162-AN8	① 1"NPTF			WS16ZR-01	5.841
3032660	FH162-SN8	② 1"NPTF			WS16Y-01	5.840
3037195	FH162-AS16	① SAE16			WS16YR-01	5.944
3032655	FH162-SS16	② SAE16			DB16P-01	5.922.3
			Weight: Al: 0.56 kg St: 1.55 kg	PDB16P-01	5.991.3	
3037208	FH163-AB8	① 1BSP		RP16A-01	5.931	
3036257	FH163-SB8	② 1BSP				
3037212	FH163-AN8	① 1NPTF				
3036312	FH163-SN8	② 1NPTF				
3037210	FH163-AS16	① SAE16				
3036285	FH163-SS16	③ SAE16				
			Weight: Al: 1.10 kg St: 3.05 kg			
3037213	FH164-AB8	① 1"BSP		ST16-01	5.967.1	
3032902	FH164-SB8	② 1"BSP				
3037216	FH164-AN8	① 1"NPTF				
3035700	FH164-SN8	② 1"NPTF				
3037214	FH164-AS16	③ SAE16				
3036672	FH164-SS16	④ SAE16				
			Weight: Al: 1.43 kg St: 3.95 kg			

6. SANDWICH PLATE HOUSINGS

6.1. MODEL CODE

Z AB 06020 - 01 X

Sandwich plate housing
with interface A6 DIN 24340

Function of each working line
see symbol point 5.3.

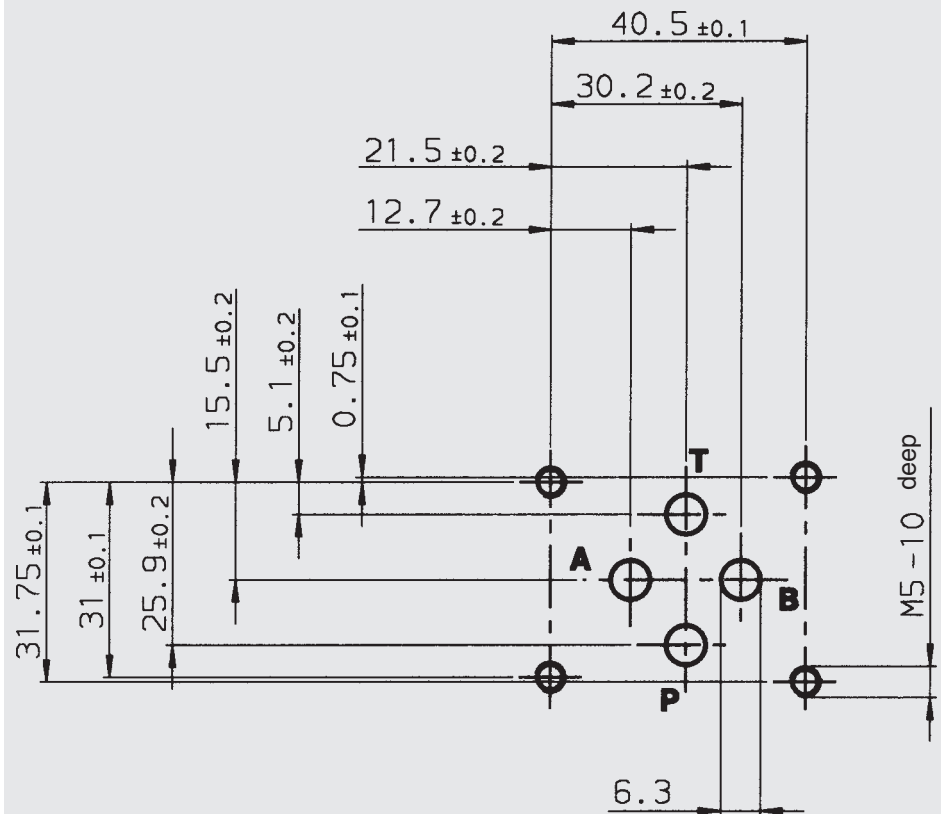
Installation dimensions of cartridge valve
see valve brochure

Type
(describes individual condition;
e. g. surface, dimensions,
functional properties ...)

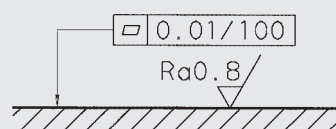
Series
(determined by manufacturer)

6.2. CONNECTION DIMENSION

Interface A6 DIN 24340 and CETOP R 35 H-4.2-4-03
Mounting height to CETOP RP99H-4-03
(view onto connection plate)



required surface finish of
mounting plate



6.3. DIMENSIONS

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395252	ZA06020-01X Cartridge valve in line A		DSR5E	393400	
			DZ5E	5.166	
			DV5E	5.113	
			SR5E	5.117	
			RV5E	5.175	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
WSM06020V	5.949.1				
Weight: 0.92 kg					
395611	ZA06020-10X Cartridge valve in line A		DSR5E	393400	
			DZ5E	5.166	
			SR5E	5.117	
			RV5E	5.175	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
			WSM06020V	5.949.1	
Weight: 0.92 kg					

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395253	ZB06020-01X Cartridge valve in line B		DSR5E	393400	
			DZ5E	5.166	
			DV5E	5.113	
			SR5E	5.117	
			RV5E	5.175	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
		Weight: 0.92 kg	WSM06020V	5.949.1	
395612	ZB06020-10X Cartridge valve in line B		DSR5E	393400	
			DZ5E	5.166	
			SR5E	5.117	
			RV5E	5.175	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
					Weight: 0.92 kg

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395254	ZAB06020-01X Cartridge valve in lines A and B		DSR5E	393400	
			DZ5E	5.166	
			DV5E	5.113	
			SR5E	5.117	
			RV5E	5.175	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
		Weight: 0.87 kg	WSM06020V	5.949.1	
395613	ZAB06020-10X Cartridge valve in lines A and B		DSR5E	393400	
			DZ5E	5.166	
			SR5E	5.117	
			RV5E	5.175	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
					Weight: 0.87 kg

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
3041122	ZAB08021-02X Cartridge valve in lines A and B	Material: aluminium Max. pressure: $p_{max} = 210 \text{ bar}$ Weight: 0.69 kg	ERVE-R $\frac{1}{2}$	5.172	
			SBVE-R $\frac{1}{2}$	5.177	
395263	ZP06020-01X Cartridge valve in line P	 Weight: 0.91 kg	SR5E	5.117	
			RV5E	5.175	
395255	ZP06020-10X Cartridge valve in line P	 Weight: 0.91 kg	DV5E	5.113	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
			WSM06020V	5.949.1	

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395265	ZT06020-01X Cartridge valve in line T	<p>Weight: 0.91 kg</p>	RV5E	5.175	
395256	ZPT06020-01X Cartridge valve between lines P and T	<p>Weight: 0.91 kg</p>	DV5E	5.113	
			RV5E	5.175	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
WSM06020V	5.949.1				
395264	ZPT06020-10X Cartridge valve between lines P and T	<p>Weight: 0.91 kg</p>	DB4E	5.161	
			PDB 06020	5.164	
			SR5E	5.117	

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395260	ZAP06020-01X Cartridge valve between lines A and P	<p>torque 25+5 Nm</p> <p>40 18 1.4</p> <p>395260</p> <p>sealing plate O-ring 9.25 x 1.78</p> <p>5W 24</p> <p>95 88 23 5.5</p> <p>45 31 26 32.5</p> <p>Weight: 1.08 kg</p>	WSM 06020W	5.949	
			WSM 06020V	5.949.1	
395261	ZAPBT06020-01X Cartridge valve between lines A and P and lines B and T	<p>torque 25+5 Nm</p> <p>40 18 1.4</p> <p>395261</p> <p>sealing plate O-ring 9.25 x 1.78</p> <p>88 23 5.5</p> <p>45 26 31 32.5</p> <p>Weight: 1.01 kg</p>	WSM 06020W	5.949	
			WSM 06020V	5.949.1	
395257	ZAT06020-01X Cartridge valve between lines A and T	<p>torque 25+5 Nm</p> <p>40 19.5 1.4</p> <p>395257</p> <p>sealing plate O-ring 9.25 x 1.78</p> <p>SW 24</p> <p>97 90 24 5.5</p> <p>45 31 25.5 32.5</p> <p>Weight: 1.04 kg</p>	DB4E	5.161	
			PDB 06020	5.164	
			DV5E	5.113	
			SR5E	5.117	
			WSM 06020W	5.949	
			WSM 06020V	5.949.1	

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395258	ZBT06020-01X Cartridge valve between lines B and T	<p>torque 25+5 Nm</p> <p>1</p> <p>19.5</p> <p>40</p> <p>SW 24</p> <p>sealing plate</p> <p>O-ring 9.25 x 1.78</p> <p>1.4</p> <p>97</p> <p>90</p> <p>24</p> <p>5.5</p> <p>25.5</p> <p>31</p> <p>45</p> <p>32.5</p> <p>1</p> <p>1</p> <p>395258</p> <p>sealing plate</p> <p>O-ring 9.25 x 1.78</p> <p>1.4</p>	DB4E	5.161	
			PDB 06020	5.164	
			DV5E	5.113	
			SR5E	5.117	
			WSM 06020W	5.949	
			WSM 06020V	5.949.1	
		Weight: 1.04 kg			
395259	ZABT06020-01X Cartridge valve between lines A and T and lines B and T	<p>1</p> <p>1</p> <p>40</p> <p>19.5</p> <p>1.4</p> <p>395259</p> <p>sealing plate</p> <p>O-ring 9.25 x 1.78</p> <p>1.4</p> <p>90</p> <p>24</p> <p>5.5</p> <p>25.5</p> <p>31</p> <p>45</p> <p>32.5</p> <p>1</p> <p>1</p> <p>395259</p> <p>sealing plate</p> <p>O-ring 9.25 x 1.78</p> <p>1.4</p>	DB4E	5.161	
			PDB 06020	5.164	
			DV5E	5.113	
			SR5E	5.117	
			WSM 06020W	5.949	
			WSM 06020V	5.949.1	
		Weight: 0.99 kg			

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
3065992	ZABT06020-02X	<p>Weight: 0.98 kg</p>	WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
			WSM06020V	5.949.1	

7. MANIFOLD HOUSING

7.1. MODEL CODE

D AB 06020 01 X

Manifold housing
with interface A6 DIN 24340

Function of each working line
see symbol under point 7.3.

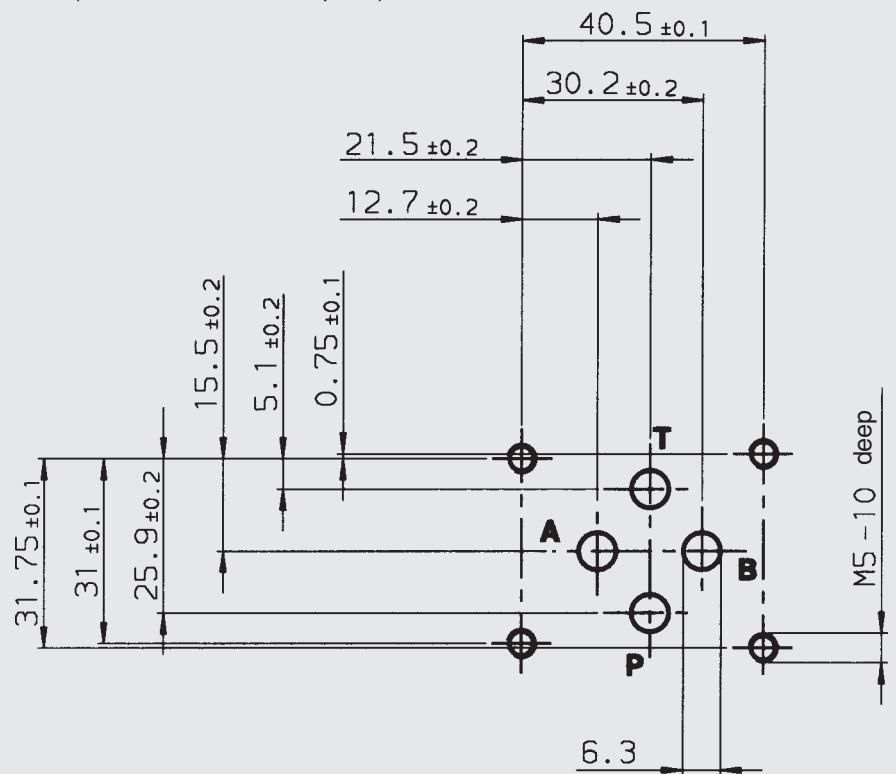
Installation dimensions of cartridge valve
see valve brochure

Type
(describes individual condition; e. g. surface, dimensions, functional properties...)

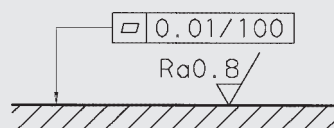
- | | |
|----------------------------|-------------|
| 11 = orifice dia. 1.1 | } in line P |
| 12 = orifice dia. 1.2 | |
| 13 = orifice dia. 1.3 | |
| 15 = orifice dia. 1.5 | |
| 30 = cartridge check valve | |

7.2. CONNECTION DIMENSION

Interface A6 DIN 24340 and CETOP R 35 H-4.2-4-03
Mounting height to CETOP RP99H-4-03
(view onto connection plate)



required surface finish of mounting plate



7.3. DIMENSIONS

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395420	D03230-01X	<p>Weight: 0.89 kg</p>	WSE 3	5.203	
395614	D03230-11X	<p>Weight: 0.89 kg</p>	WSE 3	5.203	
395621	D03230-12X				
395622	D03230-13X				
395623	D03230-15X				
		<p>For model code, see point 7.1. For curves, see point 7.4.</p> <p>cartridge orifice</p> <p>Weight: 0.89 kg</p>			
395615	D03230-30X	<p>Weight: 0.90 kg</p>	WSE 3	5.203	
		<p>For curves, see point 7.4.</p> <p>cartridge check valve</p> <p>Weight: 0.90 kg</p>			

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
555528	D08130-01X	<p>Weight: 1.00 kg</p>	PDM 08130	5.168	
			WSEC 08130	5.935	
			WSED 08130	5.934	
			WKM 08130C	5.976	
			WKM 08130D	5.977	
			WKM 08130L		
			WSM 08130D		
555529	D08130-11X	<p>Weight: 1.00 kg</p>	PDM 08130	5.168	
			WSEC 08130	5.935	
			WSED 08130	5.934	
			WKM 08130C	5.976	
555530	D08130-12X	<p>Weight: 1.00 kg</p>	WKM 08130D	5.977	
555531	D08130-13X		WKM 08130L		
555532	D08130-15X		WSM 08130D		
	For model code, see point 7.1. For curves, see point 7.4.	<p>cartridge orifice</p> <p>Weight: 1.00 kg</p>			
555533	D08130-30X	<p>Weight: 1.01 kg</p>	PDM 08130	5.168	
			WSEC 08130	5.935	
			WSED 08130	5.934	
			WKM 08130C	5.976	
			WKM 08130D	5.977	
			WKM 08130L		
			WSM 08130D		
	For curves, see point 7.4.	<p>cartridge check valve</p> <p>Weight: 1.01 kg</p>			

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395266	DA06020-01X Cartridge valve between A and T with check valve in line P	<p>Weight: 0.98 kg</p>	WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
			WSM06020V	5.949.1	
395267	DB06020-01X Cartridge valve between B and T with check valve in line P	<p>Weight: 0.98 kg</p>	WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
			WSM06020V	5.949.1	

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395269	DAB06020-01X Cartridge valve between A and B		DB4E	5.161	
			DSR5E	393400	
			DZ5E	5.166	
			PDB 06020	5.164	
			DV5E	5.113	
			SR5E	5.117	
			RV5E	5.175	
			WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
WSM06020V	5.949.1				
Weight: 0.69 kg					

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
558020	DPT06020-01X Cartridge valve between P and T	<p>Weight: 0.90 kg</p>	DB4E	5.161	
			PDB 06020	5.164	
			SR5E	5.117	
395270	DPAT06020-01X Cartridge valve between P and A and between A and T	<p>Weight: 1.10 kg</p>	WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
			WSM06020V	5.949.1	
between A and T only symbol V and W					
395271	DPRAT06020-01X Cartridge valve between P and A and between A and T with check valve in port P	<p>Weight: 1.11 kg</p>	WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
			WSM06020V	5.949.1	
between A and T only symbol V and W					

Stock No.	Model Code	Dimensions	Cartridge valve		Symbol
			Type	Brochure/ Data Sheet No.	
395389	DAT06020-01X Cartridge valve between A and T		WSM06020Z	5.943	
			WSM06020ZR	5.946	
			WSM06020Y	5.947	
			WSM06020YR	5.948	
			WSM06020W	5.949	
			WSM06020V	5.949.1	
Weight: 1.17 kg					

7.4. HYDRAULIC DETAILS

Manifold housing type D

Either orifices or a check valve can be fitted into port P as an additional function. Both at the same time is not possible.

7.4.1. Cartridge orifice

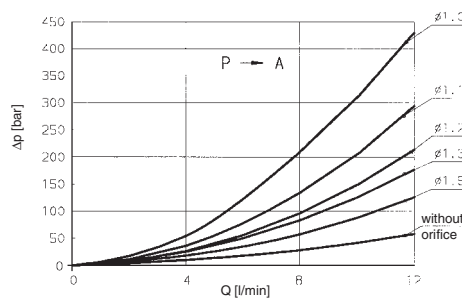
An orifice is used when unacceptably high flow rates can overload the valve. This is the case for example with accumulator operation or when used as a valve for internal pilot oil control.

Irrespective of the maximum pressure, the orifice diameter must be chosen so that the permissible flow rate of the cartridge valve used is not exceeded.

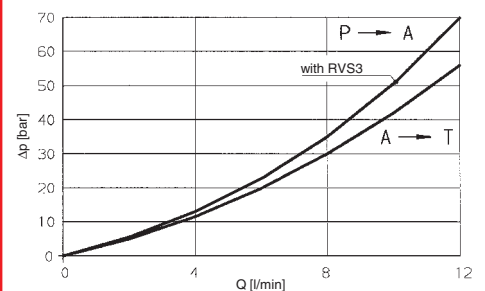
7.4.1.1 Pressure drop curves

dependent on flow rate measured at $v = 34 \text{ mm}^2/\text{s}$ and $t_{\text{OIL}} = 46 \text{ }^\circ\text{C}$

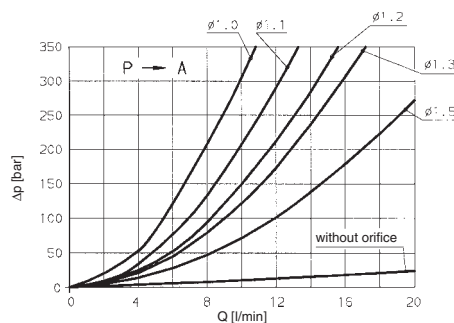
D03230-... with WSE30C...



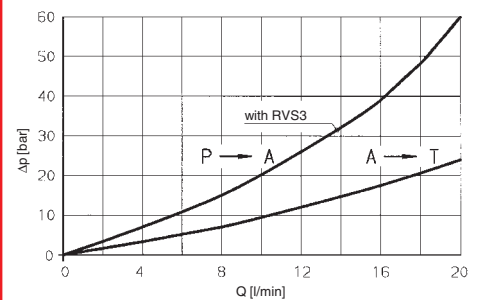
D03230-... with WSE3E0C...



D01830-... with WSEC08130-...



D08130-... with WSEC08130-...



7.4.2. Cartridge check valve

The check valve allows free flow in only one direction and shuts off the other direction leakage-free.

This prevents an uncontrolled return flow or a pressure return into the P-line. Thus it prevents mutual interference of paralleled valves.

7.4.2.1 Pressure drop curves

dependent on flow rate measured at $v = 34 \text{ mm}^2/\text{s}$ and $t_{\text{OIL}} = 46 \text{ }^\circ\text{C}$

8. DESIGN RECOMMENDATIONS

Sandwich plate and manifold housings with two inlet ports for cartridge valves can also be provided with different valve functions.

9. NOTES

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department. Subject to technical modifications.