

Electric Drives
and Controls

Hydraulics

Linear Motion and
Assembly Technologies

Pneumatics

Service

Rexroth
Bosch Group

Sandwich plates Porting patterns to DIN 24340 Form A and ISO 4401

RE 48054/01.09
Replaces: 06.06

1/26

Type HSZ 16

Size 16
Component series 3X
Maximum operating pressure 315 bar

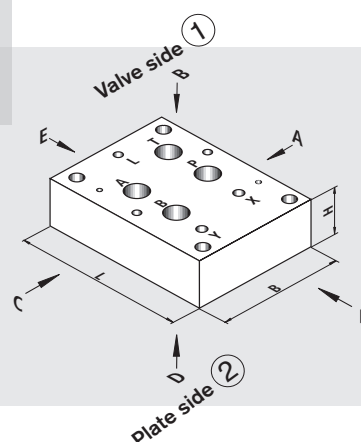


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Features

- Vertical stacking components of sandwich plate design
- Supplement to the existing sandwich plate product range
- For mounting as individual module or as vertical stacking element on multi-station manifolds, IH20 modular plate system or vario-plates
- Great flexibility due to various combination options as well as possibility of subsequent functional changes and extensions
- Maximum operating pressure
 - Without valve function: 315 bar
 - With valve function: max. 315 bar (depending on the valves fitted)
- Weight data includes the valves fitted or integrated

Safety instructions

- the valves installed into the sandwich plates may lock in an undefined position due to internal contaminations - such as contaminated hydraulic fluid, abrasion, or residual dirt from system components. This results in the driven consumer load no longer following the specifications of the operator
- when using a differential cylinder, inadmissibly high pressures can form in the discharge channel due to pressure transmission (example: non-switched directional seat valve/non-actuated solenoid coil / cable rupture). Therefore, we recommend protecting the cylinder by pressure limitation valves

Explanation of type code for HSZ 16 sandwich plates

HSZ 16 B 1 - 3X/ 2 3 4 *

1 Serial number of function version from 001 ... 999 (determined by the factory)

2 **Type of seals:** NBR seals = M (standard)
(other seals on enquiry) FKM seals = V
Note: Observe compatibility of seals with hydraulic fluid used!

3 **Type of connection:** No external connection = 00
Connection to DIN 3852 part 2 = 01
Thread to DIN EN ISO 228 (pipe thread)

4 * Further details in clear text

Order example:

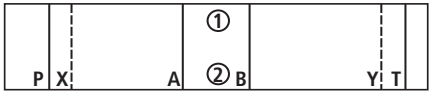
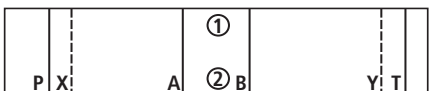
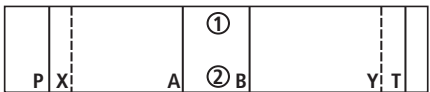
Material no.	Type designation	Component designation
R900561046	HSZ 16 B036-3X/M01	Sandwich plate without valve function
R900907797	HSZ 16 B200-3X/05M00	Sandwich plate with fixed valve configuration
R900741198	HSZ 16 B100-3X/ 15 16 S 100 M00	Sandwich plate with optional valve configuration

For type code and order examples of sandwich plates fitted with valves, see the relevant function groups!

Sandwich plates with optional valves can be supplied either as complete unit (with valves fitted) or as an assembly kit (only with seals, plug screws, nameplate).

- For circuits and versions other than those given in the data sheet, please consult us!
- Connection threads in HSZ plates are always closed with pressure-tight plugs.

Spacer plates without port (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	HSZ 16 B007-3X/M00 R900393873		140 x 91 x 20 1.8 kg	R900262858 Thread M8 x 1 provided in channels X and Y
Sandwich plate	HSZ 16 B300-3X/M00 R900568517		140 x 91 x 40 3.7 kg	R900266207
Sandwich plate	HSZ 16 B339-3X/M00 R900571221		140 x 91 x 100 9.3 kg	R900266357

Spacer plates without port, with closed system drilling

(① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	HSZ 16 B452-3X/ A00M00 R900579461		140 x 91 x 20 1.8 kg	R900752950
Sandwich plate	HSZ 16 B452-3X/ B00M00 R900752806		140 x 91 x 20 1.8 kg	R900752950
Sandwich plate	HSZ 16 B452-3X/ P00M00 R900771715		140 x 91 x 20 1.8 kg	R900752950
Sandwich plate	HSZ 16 B452-3X/ T00M00 R900771218		140 x 91 x 20 1.8 kg	R900752950
Sandwich plate	HSZ 16 B452-3X/ X00M00 R900901794		140 x 91 x 20 1.8 kg	R900752950
Sandwich plate	HSZ 16 B452-3X/ Y00M00 R900771785		140 x 91 x 20 1.8 kg	R900752950
Sandwich plate	HSZ 16 B452-3X/ X00Y00M00 R900771796		140 x 91 x 20 1.8 kg	R900752950

Spacer plates with port (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	HSZ 16 B036-3X/M01 R900561046		140 x 91 x 40 3.7 kg Side E: A, T, G1/4 Side F: B, P, G1/4	R900265685
Sandwich plate	HSZ 16 B027-3X/M01 R900568513		160 x 91 x 80 8.5 kg Side F: P, G1 1/4	R900266208
Sandwich plate	HSZ 16 B325-3X/M01 R900926622		160 x 91 x 80 8.5 kg Side E: T, G1 1/4	R900270853
Sandwich plate	HSZ 16 B048-3X/M01 R900568514		160 x 91 x 60 6.4 kg Side E: A, G1 Side F: B, G1	R900266209
Sandwich plate	HSZ 16 B095-3X/M01 R900568516		175 x 91 x 40 4.7 kg Side E: L, G1/2 Side F: X, Y, G1/2	R900266210
Sandwich plate	HSZ 16 B098-3X/M01 R900954895		175 x 91 x 40 4.7 kg Side E: L, G1/2 Side F: X, Y, G1/2	R900276834

Spacer plates with connections (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	HSZ 16 B061-3X/M00 R900547897		140 x 91 x 80 7.5 kg	R900278080

Function group: Closing function

Example: **HSZ 16 B** – 3X/

Supplementary details on sandwich plates with integrated closing function (complete components):

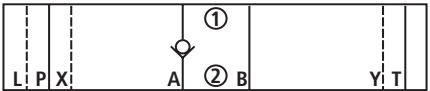
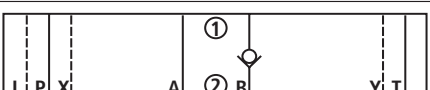
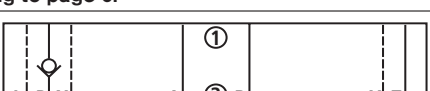
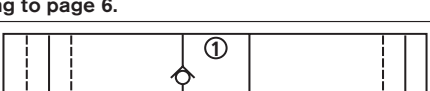
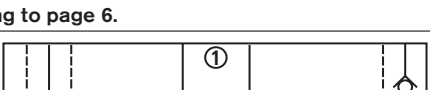
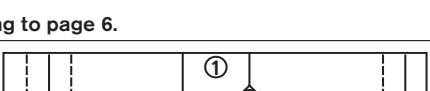
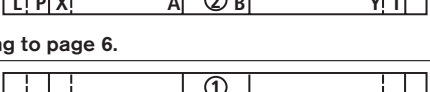
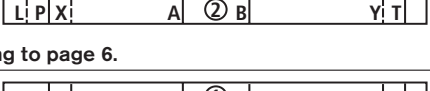
11 	Cracking pressure of check valve type M-SR 20... (cartridge kit)	0.5 bar	= 05
12.1 	Cracking pressure of check valve type Z1S 16... (cartridge kit / sandwich plate)	Cracking pressure 0.5 bar	= 1
		Cracking pressure 3.0 bar	= 2
		Cracking pressure 5.0 bar	= 3
13 	Cracking pressure of check valve type Z2S 16... (pilot operated)	Cracking pressure 3.0 bar	= 1
		Cracking pressure 5.0 bar	= 2
		Cracking pressure 7.5 bar	= 3
		Cracking pressure 10.0 bar	= 4
14 	Type of seal Note: Observe compatibility of seals with hydraulic fluid used! (Other seals on enquiry)	NBR seals	= No code
		FKM seals	= V
26 	Solenoid voltage of directional valve	24 V DC voltage	= G24
		96 V DC voltage	= G96
		205 V DC voltage	= G205

AC voltage network (permissible voltage tolerance ± 10%)	Nominal voltage of the DC solenoid when operated with AC voltage	Ordering code
110 V - 50/60 Hz 120 V - 60 Hz	96 V	G96
230 V - 50/60 Hz	205 V	G205

For connection to the AC voltage network, a DC solenoid that is controlled via a rectifier must be used (see table on the left).

In the case of individual connection, a plug-in connector with integrated rectifier may be used (separate order).

Check valves (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	Z1S 16 A ^{12.1} -1X/V		120 x 90 x 50 4.2 kg	R900263206
Supplement type designation according to page 6.				
Sandwich plate	Z1S 16 B ^{12.1} -1X/V		120 x 90 x 50 4.2 kg	R900263206
Supplement type designation according to page 6.				
Sandwich plate	Z1S 16 P ^{12.1} -1X/V		120 x 90 x 50 4.2 kg	R900263206
Supplement type designation according to page 6.				
Sandwich plate	Z1S 16 C ^{12.1} -1X/V		120 x 90 x 50 4.2 kg	R900263206
Supplement type designation according to page 6.				
Sandwich plate	Z1S 16 T ^{12.1} -1X/V		120 x 90 x 50 4.2 kg	R900263206
Supplement type designation according to page 6.				
Sandwich plate	Z1S 16 D ^{12.1} -1X/V SO4		120 x 90 x 50 4.2 kg	EV 4755C-00-3
Supplement type designation according to page 6.				
Sandwich plate	Z1S 16 E ^{12.1} -1X/V SO4		120 x 90 x 50 4.2 kg	EV 4755C-00-3
Supplement type designation according to page 6.				
Sandwich plate	Z1S 16 F ^{12.1} -1X/V		120 x 90 x 50 4.2 kg	R900263206
Supplement type designation according to page 6.				
Sandwich plate	Z1S 16 P ^{12.1} -1X/V SO68		120 x 90 x 50 4.2 kg Side F P G1/2	EV 5078-00-3
Supplement type designation according to page 6.				

Order example of complete unit: Z1S 16 A^{12.1}-1X/¹⁴V

Check valves (① = component side, ② = plate side)

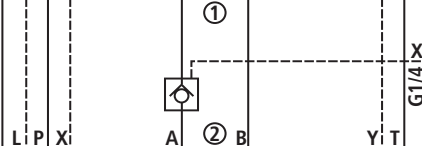
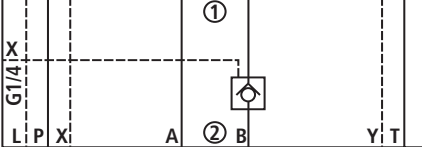
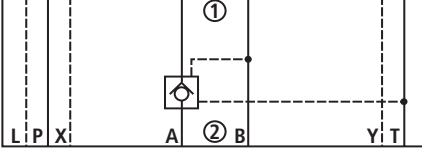
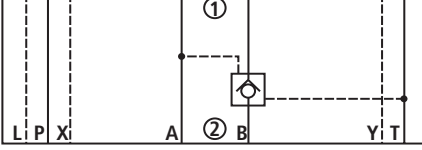
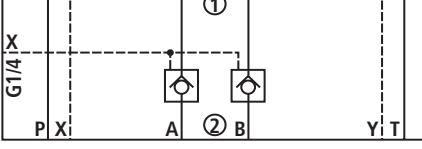
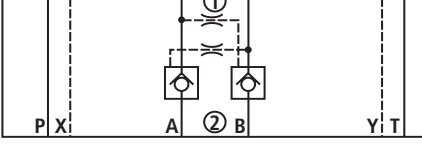
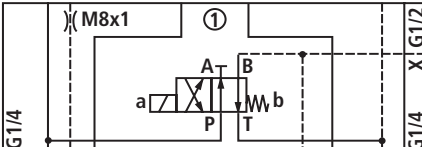
Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	HSZ 16 B187-3X/ 05M00 R900905700		200 x 91 x 120 15.9 kg	R900266362
Sandwich plate fitted with:				
Check valve (cartridge kit)	M-SR 20 KE05-1X/14			RE 20380
Sandwich plate	HSZ 16 B330-3X/05- D51M00		200 x 91 x 120 15.9 kg	R900266363
Sandwich plate fitted with:				
Check valve (cartridge kit)	M-SR 20 KE05-1X/14 DUESE51M8x1-DIN906			RE 20380 RN 115.06
Material no., see page 25				
Sandwich plate	HSZ 16 B200-3X/ 05M00 R900907797		200 x 91 x 80 10.6 kg	R900266408
Sandwich plate fitted with:				
Check valve (cartridge kit)	M-SR 20 KE05-1X/14			RE 20380
Sandwich plate	HSZ 16 B338-3X/ 05M00 R900737647		210 x 91 x 60 8.4 kg	R900266084
Sandwich plate fitted with:				
Check valve (cartridge kit)	M-SR 20 KE05-1X/14			RE 20380
Sandwich plate	HSZ 16 B188-3X/ 02M00 R900965227		210 x 91 x 120 16.7 kg	R900278563
Sandwich plate fitted with:				
Check valve (cartridge kit)	M-SR 20 KE02-1X/14			RE 20380

Order example
of complete unit: HSZ 16 B200-3X/05 M 00

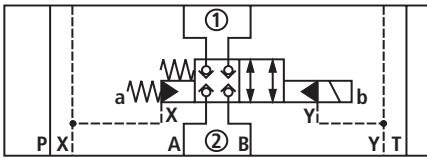
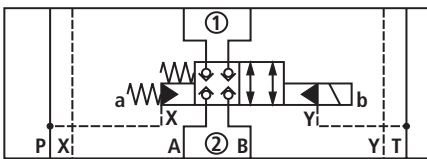
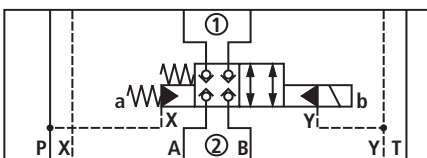
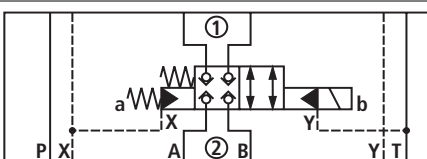
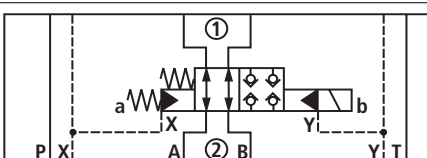
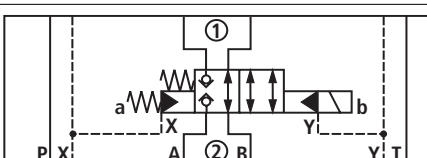
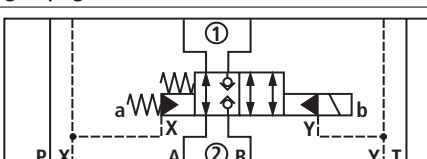
Order example
of complete unit: HSZ 16 B330-3X/05-D 08 2 3

Supplement type designation according to page 6.

Check valves, pilot operated (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	Z2S 16 A ¹³ -5X/ ¹⁴ SO40		179 x 91 x 80 6.5 kg Side F X G1/4	RE 21558
Supplement type designation according to page 6.				
Sandwich plate	Z2S 16 B ¹³ -5X/ ¹⁴ SO40		179 x 91 x 80 6.5 kg Side E X G1/4	RE 21558
Supplement type designation according to page 6.				
Sandwich plate	Z2S 16 A ¹³ -5X/ ¹⁴ SO60		179 x 91 x 80 6.5 kg	RE 21558
Supplement type designation according to page 6.				
Sandwich plate	Z2S 16 B ¹³ -5X/ ¹⁴ SO60		179 x 91 x 80 6.5 kg	RE 21558
Supplement type designation according to page 6.				
Sandwich plate	HSZ 16 B526-3X/ERVEM01 R900900617		385 x 91 x 140 35.8 kg Side E X G1/4	R900266358
Sandwich plate fitted with: Check valve, pilot operated FL-ERVE-R1 1/2-10X				
Sandwich plate	HSZ 16 B527-3X/ERVE-D ⁵¹ M00		385 x 91 x 140 35.8 kg	R900266265
Sandwich plate fitted with: Check valve, pilot operated DUESE ⁵¹ M8x1-DIN906				
Material no., see page 25				
Sandwich plate	HSZ 16-29794-CA/ G24N9K4M01 R900784043		200 x 120 x 200 45.4 kg Side A MA, MB G1/4 X G1/2	R900784447
Sandwich plate fitted with: 4WE 6 D6X/EG24N9K4 SL 20 PA2-4X/ SL 20 PA2-4X/				

Closing function, electrical operation (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	M-Z4SEH 16 E2X/3C ② K4		225 x 92 x 100 14.7 kg	R901071320
Supplement type designation according to page 6.				
Sandwich plate	M-Z4SEH 16 E2X/3C ② ETK4		225 x 92 x 100 14.7 kg	R901071320
Supplement type designation according to page 6.				
Sandwich plate	M-Z4SEH 16 E2X/3C ② EK4		225 x 92 x 100 14.7 kg	R901071320
Supplement type designation according to page 6.				
Sandwich plate	M-Z4SEH 16 E2X/3C ② TK4		225 x 92 x 100 14.7 kg	R901071320
Supplement type designation according to page 6.				
Sandwich plate	M-Z4SEH 16 E2X/3C ② K4		225 x 92 x 100 14.7 kg	R901071320
Supplement type designation according to page 6.				
Sandwich plate	M-Z4SEH 16 A2X/3C ② K4		225 x 92 x 100 14.7 kg	R901071320
Supplement type designation according to page 6.				
Sandwich plate	M-Z4SEH 16 B2X/3C ② K4		225 x 92 x 100 14.7 kg	R901071320
Supplement type designation according to page 6.				

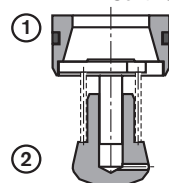
Function group: Pressure function

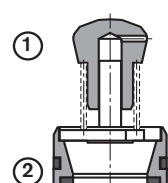
Example: **HSZ 16 B** 1 - 3X/ 15 16 2 3

Supplementary details on sandwich plates with integrated pressure control function (complete units):

14 	Type of seal Note: Observe compatibility of seals with hydraulic fluid used! (Other seals on enquiry)	NBR seals FKM seals	= No code = V
15 	Adjustment element on pressure relief valve type DBD..20...:	Grub screw with hexagon and protective cap Rotary knob Lockable rotary knob	= S = H ¹⁾ = A ¹⁾
16 	Pressure setting on pressure relief valve Type DBD..20...: Note: Code () for complete type!	up to 25 bar up to 50 bar up to 100 bar up to 200 bar up to 315 bar	= 25 (025) = 50 (050) = 100 = 200 = 315
17 	Adjustment element on pressure relief valve type DB 20 K...:	Rotary knob Sleeve with hexagon and protective cap Lockable rotary knob with scale Rotary knob with scale	= 1 = 2 = 3 = 7
18 	Pressure setting on pressure relief valve type DB 20 K...: Note: Code () for complete type!	up to 50 bar up to 100 bar up to 200 bar up to 315 bar	= 50 (050) = 100 = 200 = 315
12 	Cracking pressure of check valve type D18...:	0.5 bar	= 05BAR

Cartridge kit (versions "P" and "T"):

	Version "P" (cracking pressure 0.5 bar)	
	Seal material	Material no.
	NBR	R900545200
	FKM	R900545206

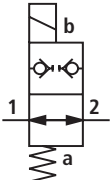
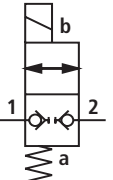
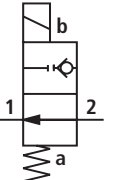
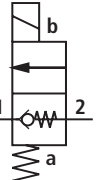
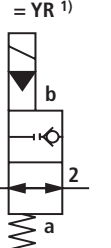
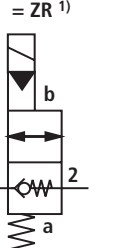
	Version "T" (cracking pressure 0.5 bar)	
	Seal material	Material no.
	NBR	R900545203
	FKM	R900545209

37 	Adjustment element on pressure reducing valve type DR 20 K...:	Rotary knob Sleeve with hexagon and protective cap Lockable rotary knob with scale Rotary knob with scale	= 4 = 5 = 6 = 7
38 	Pressure setting on pressure reducing valve type DR 20 K...: Note: Code () for complete type!	Secondary pressure up to 50 bar up to 100 bar up to 200 bar up to 315 bar	= 50 (050) = 100 = 200 = 315

¹⁾ Please observe installation dimensions!

Function group: Pressure function

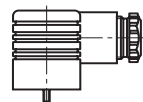
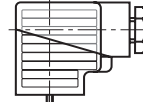
Supplementary details on sandwich plates with short-circuit valves (complete units):

31	Size of 2/2 directional poppet valve:	up to 3 l/min (symbols Y and Z) = 1 up to 20 l/min (symbols V and W) = 5 up to 30 l/min (symbols Z, ZR, Y and YR) = 5
32	Type code of 2/2 directional poppet valve:	Direct operated Size 1 (symbols Y and Z) = 1 Size 5 (symbols V and W) = 1 Pilot operated Size 5 (symbols Y, YR, Z and ZR) = 2
33	Symbol of 2/2 directional poppet valve:	= V  = W  = Y  = Z  = YR ¹⁾  = ZR ¹⁾ 
34	Solenoid voltage of 2/2 directional poppet valve:	24 V DC voltage = G24 230 V AC voltage, 50/60 Hz = W230
35	Manual override of 2/2 directional poppet valve:	Without manual override (standard) = No code Manual override operation by means of pin tool = N Manual override operation using thumb pressure (only symbols V, W, Y and YR) = Size
25	Types of electrical connection of 2/2 directional poppet valve:	Individual connection; with coupler plug = K4 ²⁾ DIN EN 175301-803, without female plug-in connector

¹⁾ Size 5 only

²⁾ Female plug-in connectors must be ordered separately (see below).

Ordering code: Plug-in connectors to DIN EN 175301-803 and ISO 4400 for coupler plug "K4"

For futher plug-in connectors, see RE 08006				
	Material no.			
	Without circuitry	With indicator lamp 12 ... 240 V	With rectifier 12 ... 240 V	With indicator lamp and Zener-diode suppressor circuit 24 V
Colour				
Grey	R901017010	–	–	–
Black	R901017011	–	–	–
Black	–	R901017022	R901017025	R901017026

Pressure relief valves, direct operated (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	HSZ 16 B100-3X/ 15 16 M00		160 x 91 x 80 9.0 kg	R900266174
Sandwich plate fitted with: Pressure relief valve, direct operated	DBD 15 20 K1X/ 16 14			RE 25402 DBD on side E
Sandwich plate	HSZ 16 B102-3X/ 15 16 M00		145 x 91 x 80 8.2 kg	R900266180
Sandwich plate fitted with: Pressure relief valve, direct operated	DBD 15 20 K1X/ 16 14			RE 25402 DBD on side F
Sandwich plate	HSZ 16 B106-3X/ 15 16 M00		200 x 91 x 80 11.1 kg	R900265651
Sandwich plate fitted with: Pressure relief valve, direct operated	DBD 15 20 K1X/ 16 14			RE 25402 DBD on side E
Sandwich plate	HSZ 16 B107-3X/ 15 16 M00		220 x 91 x 80 12.2 kg	R900265669
Sandwich plate fitted with: Pressure relief valve, direct operated	DBD 15 20 K1X/ 16 14			RE 25402 DBD on side E
Sandwich plate	HSZ 16 B117-3X/ 15 16 M00		270 x 91 x 140 26.0 kg	R900270171
Sandwich plate fitted with: Pressure relief valve, direct operated	DBD 15 30 K1X/ 16 14			RE 25402 DBD on side E
Sandwich plate	HSZ 16 B104-3X/A 15 16 -B 15 16 M00		260 x 91 x 80 14.8 kg	R900262700
Sandwich plate fitted with: Pressure relief valve, direct operated	DBD 15 20 K1X/ 16 14			RE 25402 DBD on sides E and F
Sandwich plate	HSZ 16 B108-3X/A 15 16 -B 15 16 M00		145 x 91 x 110 11.6 kg	R900266179
Sandwich plate fitted with: Pressure relief valve, direct operated	DBD 15 20 K1X/ 16 14			RE 25402 DBD on sides E and F

Order example of complete unit with two pressure relief valves: HSZ 16 B104-3X/A 15 16 200-B 15 16 200 M 3 00

Supplement type designation according to page 11.

Protected channel

Pressure relief valves, pilot operated, electrically unloadable

(① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate Sandwich plate fitted with: Pressure relief valve, pilot operated 2/2 directional valve	HSZ 16 B562-3X/ 17 18 XYU- 31 32 33 34 35 25 M01 DB 20 K 17 18 XYU FL-2SV 31 32 33 34 35 X/ -		180 x 91 x 80 10.1 kg	R900265571 RE 25818 Valve on side E Valve on side F Port closed pressure-tight
Sandwich plate Sandwich plate fitted with: Pressure relief valve, pilot operated 2/2 directional valve	HSZ 16 B562-3X/ 17 18 XYU- 31 32 33 34 35 25 YM01 DB 20 K 17 18 XYU FL-2SV 31 32 33 34 35 X/ -		180 x 91 x 80 10.1 kg Side F Y G1/4	R900265571 RE 25818 Valve on side E Valve on side F

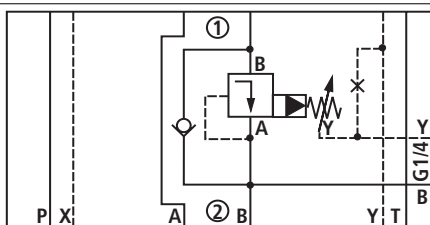
Order example of complete unit: HSZ 16 B562-3X/ 17 18 XYU- 31 32 33 34 35 25 M01 2 3

Supplement type designation according to pages 11 and 12.

Pressure reducing valves, pilot operated (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate Sandwich plate fitted with: Pressure re- ducing valve, pilot operated	HSZ 16 B550-3X/ ³⁷ - ³⁸ M01 DR 20 K ³⁷ -1X/ ³⁸ YM ¹⁴		140 x 91 x 100 9.5 kg Side E P G1/4	R900265046 RE 26893 DR on side F Port Y closed pres- sure-tight
Sandwich plate Sandwich plate fitted with: Pressure re- ducing valve, pilot operated	HSZ 16 B550-3X/ ³⁷ - ³⁸ YM01 DR 20 K ³⁷ -1X/ ³⁸ YM ¹⁴		140 x 91 x 100 9.5 kg Side E P G1/4	R900265046 RE 26893 DR on side F
Sandwich plate Sandwich plate fitted with: Pressure re- ducing valve, pilot operated	HSZ 16 B557-3X/ ³⁷ - ³⁸ M01 DR 20 K ³⁷ -1X/ ³⁸ YM ¹⁴		220 x 91 x 100 15.8 kg Side E A G1/4	R900265981 RE 26893 DR on side E Port Y closed pres- sure-tight
RUECKSCHLAGVENTIL D18- ¹² _{05BAR} / ¹⁴ Z1S16P				
Sandwich plate Sandwich plate fitted with: Pressure re- ducing valve, pilot operated	HSZ 16 B557-3X/ ³⁷ - ³⁸ YM01 DR 20 K ³⁷ -1X/ ³⁸ YM ¹⁴		220 x 91 x 100 15.8 kg Side E A G1/4	R900265981 RE 26893 DR on side E
RUECKSCHLAGVENTIL D18- ¹² _{05BAR} / ¹⁴ Z1S16P				
Sandwich plate Sandwich plate fitted with: Pressure re- ducing valve, pilot operated	HSZ 16 B565-3X/ ³⁷ - ³⁸ M01 DR 20 K ³⁷ -1X/ ³⁸ YM ¹⁴		160 x 91 x 100 11.5 kg Side F B, Y G1/4	R900262987 RE 26893 DR on side F Port Y closed pres- sure-tight
RUECKSCHLAGVENTIL D18- ¹² _{05BAR} / ¹⁴ Z1S16P				

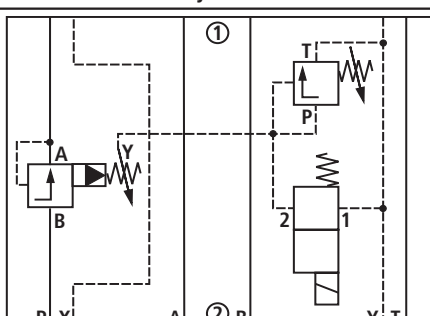
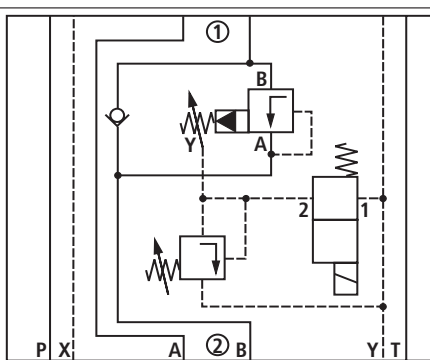
Pressure reducing valve, pilot operated (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate Sandwich plate fitted with: Pressure reducing valve, pilot operated	HSZ 16 B565-3X/ ³⁷ ³⁸ YM01 DR 20 K ³⁷ -1X/ ³⁸ YM ¹⁴		160 x 91 x 100 11.5 kg Side F B, Y G1/4	R900262987 RE 26893 DR on side F
RUECKSCHLAGVENTIL D18- ¹² _{05BAR} / ¹⁴ Z1S16P				

Order example of complete unit: HSZ 16 B557-3X/³⁷₅₁-³⁸₁₀₀Y²_M³₀₁

Pressure reducing valves, pilot operated with 2nd pressure stage

(① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate Sandwich plate fitted with: Pressure reducing valve, pilot operated Pressure relief valve, direct operated 2/2 directional poppet valve	HSZ 16 B640-3X/ ³⁷ ₃₂ - ³⁸ ₃₃ - ¹⁵ ₃₄ - ¹⁶ ₃₅ - ³¹ ₂₅ M00 DR 20 K ³⁷ -1X/ ³⁸ YM DBD ¹⁵ 6 K1X/ ¹⁶ ₁₄ FL-2SV ³¹ E ³² ₃₄ - ³³ ₃₅ X/		185 x 91 x 100 14.0 kg	R900279887 RE 26893 DR on side F RE 25402 DBD on side E Valve on side E
Sandwich plate Sandwich plate fitted with: Pressure reducing valve, pilot operated Pressure relief valve, direct operated 2/2 directional poppet valve	HSZ 16 B567-3X/ ³⁷ ₃₂ - ³⁸ ₃₃ - ¹⁵ ₃₄ - ¹⁶ ₃₅ - ³¹ ₂₅ M00 DR 20 K ³⁷ -1X/ ³⁸ YM DBD ¹⁵ 6 K1X/ ¹⁶ ₁₄ FL-2SV ³¹ E ³² ₃₄ - ³³ ₃₅ X/		185 x 91 x 100 14.0 kg	R900262405 RE 26893 DR on side F RE 25402 DBD on side E Valve on side E
RUECKSCHLAGVENTIL D18- ¹² _{05BAR} / ¹⁴ Z1S16P				

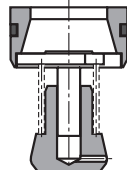
Function group: Combination of pressure and closing function

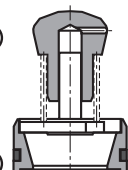
Example of load lowering function: **HSZ 16 B** ¹ – **3X/L** ³⁹ ⁴⁵ ² ³

Supplementary details on sandwich plates with integrated pressure and closing function (complete units):

15 ☐	Adjustment element on pressure relief valve type DBD...20...:	Grub screw with hexagon and protective cap = S Rotary knob = H ¹⁾ Lockable rotary knob = A ¹⁾
16 ☐	Pressure setting on pressure relief valve type DBD...20...: Note: Code () for complete type!	up to 25 bar = 25 (025) up to 50 bar = 50 (050) up to 100 bar = 100 up to 200 bar = 200 up to 315 bar = 315
12 ☐	Cracking pressure of check valve types D18... and D18...SO4:	0.5 bar = 05BAR

Cartridge kit (versions "P" and "T"):

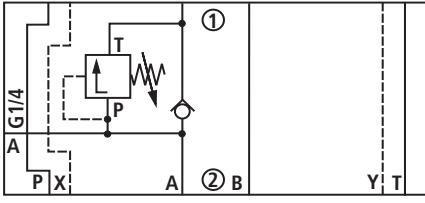
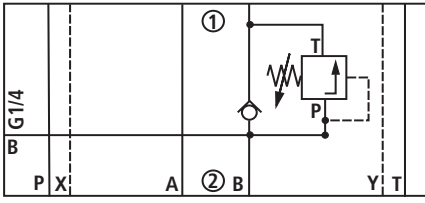
①  ②	(Version "P" (cracking pressure 0.5 bar))	
	Seal material	Material no.
	NBR	R900545200

①  ②	Version "T" (cracking pressure 0.5 bar)	
	Seal material	Material no.
	NBR	R900545203
	FKM	R900545209
	D18...SO4	R900545359

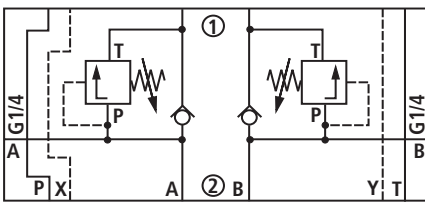
14 ☐	Type of seal Note: Observe compatibility of seals with hydraulic fluid used! (Other seals on enquiry)	NBR seals = No code FKM seals = V
44 ☐	Opening ratio of load lowering valve: Further opening ratios on enquiry	Opening ratio 4.5 : 1 = G (standard) for systems with variable load conditions and structure-related fluctuations Opening ratio 10 : 1 = H for systems with relatively constant load
39 ☐	Pressure setting	70 to 175 bar (set value 140) = K 140 to 350 bar (set value 210) = J
45 ☐	Opening ratio	4.5 : 1 = 4 10 : 1 = 10

¹⁾ Please observe installation dimensions!

Counterbalance function (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate Sandwich plate fitted with: Pressure relief valve, direct operated	HSZ 16 B216-3X/ ¹⁵ - ¹⁶ M01 DBD ¹⁵ 20 K1X/ ¹⁶ ¹⁴		220 x 91 x 100 16.2 kg Side E A G1/4	R900265832 RE 25402 DBD on side E
RUECKSCHLAGVENTIL D18- ¹² 05BAR / ¹⁴ Z1S16T				
Sandwich plate Sandwich plate fitted with: Pressure relief valve, direct operated	HSZ 16 B218-3X/ ¹⁵ - ¹⁶ M01 DBD ¹⁵ 20 K1X/ ¹⁶ ¹⁴		220 x 91 x 100 16.2 kg Side E B G1/4	R900265743 RE 25402 DBD on side F
RUECKSCHLAGVENTIL D18- ¹² 05BAR / ¹⁴ Z1S16TSO4				

Order example of complete unit: HSZ 16 B216-3X/¹⁵~~S~~/¹⁶¹⁰⁰-²~~M~~/³⁰¹

Sandwich plate Sandwich plate fitted with: Pressure relief valve, direct operated	HSZ 16 B217-3X/A ¹⁵ ¹⁶ -B ¹⁵ ¹⁶ M01 DBD ¹⁵ 20 K1X/ ¹⁶ ¹⁴		300 x 91 x 100 22.4 kg Side E A G1/4 Side F B G1/4	R900266181 RE 25402 DBD on sides E and F
RUECKSCHLAGVENTIL D18- ¹² 05BAR / ¹⁴ Z1S16TSO4				

Order example of complete unit: HSZ 16 B217-3X/A¹⁵~~S~~/¹⁶¹⁰⁰-B¹⁵¹⁶~~S~~/¹⁶¹⁰⁰-²~~M~~/³⁰¹

Protected channel

Supplement type designation according to page 17.

Pressure relief/anti-cavitation function (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	HSZ 16 B214-3X/A ¹⁵ □-B □ ¹⁵ □ ¹⁶ M01		380 x 91 x 130 33.8 kg	R900266191
Sandwich plate fitted with:				
Pressure relief valve, direct operated	DBD ¹⁵ □ ¹⁵ 20 K1X/ □ ¹⁶ □ ¹⁴		Side E A G1/4	RE 25402 DBD on sides E and F
Check valve (cartridge kit)	M-SR 20 KE05-1X/ □ ¹⁴		Side F B G1/4	RE 20380
Sandwich plate	HSZ 16 B207-3X/A ¹⁵ □-B □ ¹⁵ □ ¹⁶ M00		270 x 91 x 140 26.1 kg	R900266094
Sandwich plate fitted with:				
Pressure relief valve, direct operated	DBD ¹⁵ □ ¹⁵ 20 K1X/ □ ¹⁶ □ ¹⁴			RE 25402 DBD on sides E and F
Check valve (cartridge kit)	M-SR 20 KE05-1X/ □ ¹⁴			RE 20380

Order example of complete unit: HSZ 16 B214-3X/A ¹⁵S ¹⁶315-B ¹⁵S ¹⁶315 ²M ³01

Protected channel

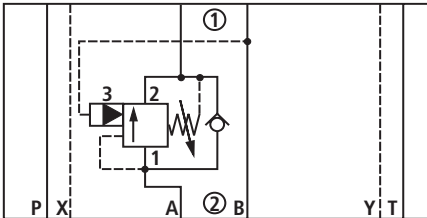
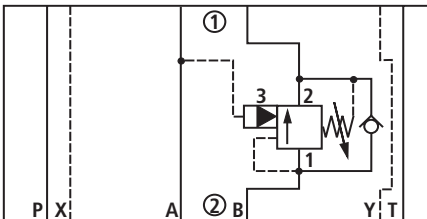
Sandwich plate	HSZ 16 B222-3X/ 15 16 M01		220 x 91 x 100 14.5 kg	R900766947
Sandwich plate fitted with:			Side E Side F A B G1/4 G1/4	RE 25402 DBD on side E
Pressure relief valve, direct operated	DBD 15 20 K1X/ 16 14			
Check valve (cartridge kit)	M-SR 20 KE05-1X/ 14			RE 20380

Order example of complete unit: **HSZ 16 B222-3X/**

¹⁵ S	¹⁶ 100	² M	³ 01
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Supplement type designation according to page 17.

Load lowering function – complete unit (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	HSZ 16 B430-1X/L 39 45 M00		230 x 91 x 120 18.2 kg	R900769678 RE 18115-08 RE 18115-12 CBG on side E
Sandwich plate	HSZ 16 B431-1X/L 39 45 M00		230 x 91 x 120 18.2 kg	R900769806 RE 18115-08 RE 18115-12 CBG on side F

Order example of complete unit with one load lowering valve: **HSZ 16 B430-1X/L**

39	45	2	3
K	4	M	00

Sandwich plate HSZ 16 B426-1X/AL  -BL  M00 Sandwich plate fitted with: SENBREMSVENTIL CBG -L N		230 x 91 x 120 18.2 kg	R900769816 RE 18115-08 RE 18115-12 CBG on sides E and F
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Order example of complete unit with two load lowering valves: **HSZ 16 B426-1X/AL**

39	45
J	10

-BL

39	45	2	3
J	10	M	00

Protected channel

Preloading of check valve = 2 bar.

Not suitable for use of a proportional directional valve and for regenerative circuits (please consult us!)

For futher technical information, see RE 18115-01.

Supplement type designation according to page 17.

Throttle valves (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate	Z2FS 16-3X/S SO71 R900560759		173 x 91 x 51 4.7 kg	EV 5829-00-3
Sandwich plate	Z2FS 16-3X/S SO72 R900560760		173 x 91 x 51 4.7 kg	EV 5829-00-3
Sandwich plate	Z2FS 16-3X/S SO73 R900560761		173 x 91 x 51 4.8 kg	EV 5829-00-3
Sandwich plate	HSZ 16 B167-3X/ DVEM00 R900921382		150 x 91 x 100 10.5 kg	R900266211
Sandwich plate fitted with: Throttle valve	FL-DVE-16-01.X/0			
Sandwich plate	HSZ 16 B085-3X/A ⁵³ M00		140 x 91 x 20 1.8 kg	R900774325
Sandwich plate fitted with: ⁵³ DUESE R3/8-DIN906 Material no., see page 25				RN 115.06
Sandwich plate	HSZ 16 B085-3X/B ⁵³ M00		140 x 91 x 20 1.8 kg	R900774325
Sandwich plate fitted with: ⁵³ DUESE R3/8-DIN906 Material no., see page 25				RN 115.06
Sandwich plate	HSZ 16 B085-3X/P ⁵³ M00		140 x 91 x 20 1.8 kg	R900774325
Sandwich plate fitted with: ⁵³ DUESE R3/8-DIN906 Material no., see page 25				RN 115.06
Sandwich plate	HSZ 16 B085-3X/T ⁵³ M00		140 x 91 x 20 1.8 kg	R900774325
Sandwich plate fitted with: ⁵³ DUESE R3/8-DIN906 Material no., see page 25				RN 115.06

Order example of complete unit with 2.5 mm orifice in channel A: HSZ 16 B085-3X/A ⁵³25 ²M ³00

Flow control valves, meter-in and meter-out control (① = component side, ② = plate side)

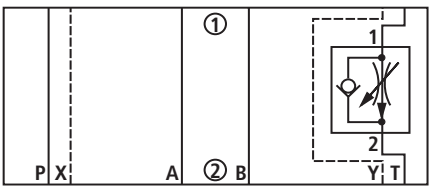
Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate Sandwich plate fitted with: STROMREGELVENTIL FDEA-LAN	HSZ 16 B459-3X/ LAM00 R900774457		220 x 91 x 100 14.5 kg	R900774477 FDEA on side E RE 18118-36
Sandwich plate Sandwich plate fitted with: STROMREGELVENTIL FDEA-LAN	HSZ 16 B460-3X/ LAM00 R900774459		220 x 91 x 100 14.5 kg	R900774478 FDEA on side F RE 18118-36
Sandwich plate Sandwich plate fitted with: STROMREGELVENTIL FDEA-LAN	HSZ 16 B454-3X/ALA- BLAM00 R900774454		220 x 91 x 100 14.5 kg	R900774476 FDEA on sides E and F RE 18118-36
Sandwich plate Sandwich plate fitted with: STROMREGELVENTIL FDEA-LAN	HSZ 16 B455-3X/ LAM00 R900774465		220 x 91 x 100 14.5 kg	R900774479 FDEA on side F RE 18118-36
Sandwich plate Sandwich plate fitted with: STROMREGELVENTIL FDEA-LAN	HSZ 16 B456-3X/ LAM00 R900774438		220 x 91 x 100 14.5 kg	R900774474 FDEA on side E RE 18118-36
Sandwich plate Sandwich plate fitted with: STROMREGELVENTIL FDEA-LAN	HSZ 16 B457-3X/ LAM00 R900774447		220 x 91 x 100 14.5 kg	R900774475 FDEA on side F RE 18118-36
Sandwich plate Sandwich plate fitted with: STROMREGELVENTIL FDEA-LAN	HSZ 16 B453-3X/ALA- BLAM00 R900774430		220 x 91 x 100 14.5 kg	R900774473 FDEA on sides E and F RE 18118-36

Order example of complete unit with **two** flow control valves: HSZ 16 B454-3X/ALA-BLA ²M ³00

Protected channel

Order example of complete unit with **one** flow control valve: HSZ 16 B456-3X/LA ²M ³00

Flow control valve, meter-in and meter-out control (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate Sandwich plate fitted with: STROMREGELVENTIL FDEA-LAN	HSZ 16 B458-3X/ LAM00 R900774451		220 x 91 x 100 14.5 kg	R900774480 FDEA on side E RE 18118-36

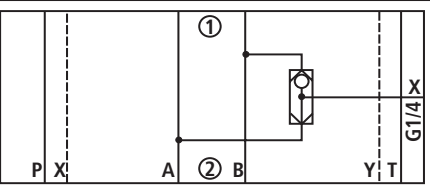
– Leakage 1 -> 2 while orifice is closed ≤ 0.8 l/min at 350 bar

– Pre-loading of by-pass check valve = 0.7 bar

– Flow range of flow control valve: 0.8 to 95 l/min

For further technical information, see RE 18115-01.

Shuttle valve (① = component side, ② = plate side)

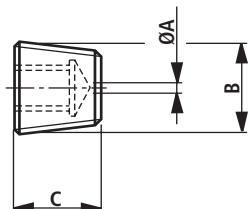
Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate Sandwich plate fitted with:	HSZ 16 B232-3X/WVEM01 R900943807		140 x 91 x 60 5.6 kg Side F X G1/4	R900266206
Shuttle valve	FL-WVE-R1/4-01X/VITON			

Logic functions (① = component side, ② = plate side)

Component designation	Type designation Material no.	Symbol	Plate L x W x H Weight Size of ports	Dimensional sheet Further information
Sandwich plate HSZ 16-26673-AB/ G24N9K4M00 R900968903 Sandwich plate fitted with: LC 16 A40D7X/-004 LFA 16 D19-7X/ LFA 16 GWA-7X/A07P07T07 M-3SED 6 UK1X/350CG24N9K4 (A different component placement requires another type designation and material no.)			200 x 91 x 120 21 kg	R900279458 RE 21010 RE 21010 RE 21010 RE 22049 Logics on sides E and F Pilot oil from P-channel Drain oil in Y-channel
Sandwich plate HSZ 16-26673-AC/ G24N9K4M00 R900727217 Sandwich plate fitted with: LC 16 A40D7X/-004 LFA 16 D19-7X/ LFA 16 GWA-7X/A07P07T07 M-3SED 6 UK1X/350CG24N9K4 (A different component placement requires another type designation and material no.)			200 x 91 x 120 21 kg	R900727216 RE 21010 RE 21010 RE 21010 RE 22049 Logics on sides E and F Pilot oil from X-channel Drain oil in Y-channel
Sandwich plate HSZ 16-26859-AA/ G24N9K4M00 R900756270 Sandwich plate fitted with: LFA 16 EWA-7X/CA10DQMG24 A08P08T08 4WE 6 D6X/EG24N9K4 (A different component placement requires another type designation and material no.)			180 x 91 x 110 18 kg	R900757442 RE 21010 RE 23178 Logic on side E

Orifices, seals

RNI 115.06 , Form 7
(Plug screw DIN 906)



Note: Code () for complete type!

50



51



52



53



B	M6	M8 x 1	R1/8	R 3/8
C	6	8	8	10
ØA	Material no.			
0.6 (06)	R900157934	R900149430	R900159145	–
0.7 (07)	R900157931	R900143957	–	–
0.8 (08)	R900152276	R900136843	R900144212	R900159043
0.9 (09)	R900695625	R900643104	–	–
1.0 (10)	R900149335	R900136842	R900135607	R900159033
1.1 (11)	R900645667	R900144763	–	–
1.2 (12)	R900152286	R900139101	R900146270	R900159032
1.3 (13)	R900152291	R900144762	R900891295	R900163839
1.4 (14)	R900171199	R900158791	R900135606	–
1.5 (15)	R900148823	R900133712	R900144910	R900159031
1.8 (18)	R900157932	R900150953	R900142840	R900159030
2.0 (20)	R900156650	R900137299	R900155897	R900159029
2.5 (25)	R900157929	R900137445	R900148351	R900146259
3.0 (30)	R900181894	R900144761	R900111282	R900149044
3.5 (35)	–	–	–	R900146258
4.0 (40)	–	–	–	R900149052
5.0 (50)	–	–	–	R900152287
6.0 (60)	–	–	–	R900135774
7.0 (70)	–	–	–	R900152289
7.5 (75)	–	–	–	R900137643
8.0 (80)	–	–	–	R900626397

Seal kit – plate:

Seal material	Material no.
NBR	R900853074
FKM	R900841029