

# Control module for clamping and drive module UPE2 / UPE3

**RE 51144/09.05**  
Replaces: 11.02

1/88

## Type IH15A

Component series 1X  
Maximum operating pressure 500 bar  
Maximum flow 14 l/min

upe2\_1x\_d

## Overview of contents

Contents	Page	Contents	Page
Features	2	Poppet valve module	
Description, general	3	• Modules	19
Technical data	4	• Pressure filter module with pressure relief valve NS6	24
Module overview	5 to 7	• Pressure sequence module	28
Basic module		• Pressure relief module	25
• Modules	8	• Pressure relief module NS6	26
• Connection module	9	• Pressure relief module with circulation valve	27
• Pressure relief module	10	• Pressure reducing module	31
• Pressure maintaining module	12 to 13	• End module	57
• Lifting/lowering module	11	• End module with pressure switch	58 to 60
Directional valve module		• End module with pressure switch and isolator valve	61 to 63
• Modules	14	• End module with accumulator and isolator valve	64 to 66
• Connection module with electrical unloading	15	• Filter module	20
• Pressure relief module with a valve station	16	• Filter module with pressure relief valve	21 to 22
• Cooler module	17	• Filter modul with pressure relief valve and circulation valve	23
• Sandwich module	18	• Module with pressure switch	54 to 55
		• Module with check valve	52 to 53

For information regarding the available spare parts see:  
[www.boschrexroth.com/spc](http://www.boschrexroth.com/spc)

Continued on page 2

## Overview of contents

---

Contents	Page	Contents	Page
• Module P	34	Reducing module	
• Module SAB4	49 to 51	• Reservoir connection module with reduction to the IH15A	74
• Module SAT2	36	• Reducing module IH15B to IH15A (right)	74
• Module SBAT2 with pressure relief valve	40 to 41	Module with threaded connections, for line mounting	
• Module SPA2	35	• Pressure reducing module	75
• Module SPA3	44 to 46	• Module SPA2G	76
• Module SPAT2	37 to 38	• Module SPA3G	77
• Module SPAT2 with pressure relief valve	39	Type codes	
• Module SPAT3 with pressure relief valve	47 to 48	• Type codes details	78 to 84
• Module SPBAT2 with pressure relief valve	42 to 43	• Type codes for modules with vertical stacking assemblies	86
• Proportional pressure relief module	29	Accessories	
• Proportional pressure reducing module	30	• Filter element	87
• Accumulator safety module	67 to 68	• Assembly tools	87
• Circulation module	33	Dimensions	
• Circulation module with isolator valve	32	• Unit dimensions	3
• Sandwich module with P1 - port blocked	56	• Reservoir cut-out	87
Module for separate mounting			
• Modules with application examples	69		
• Connection module	70		
• Connection module with pressure relief valve	71		
• End module	73		
• Sandwich module	72		

## Features

---

- Compact design
- No piping of the controls
- Few separation points
- Variable assembly
- Can be individually combined
- Can be directly mounted onto the clamping and drive module, can also be separately mounted
- Can be directly mounted onto the power units reservoir cover
- Ready for connection

## Description, general

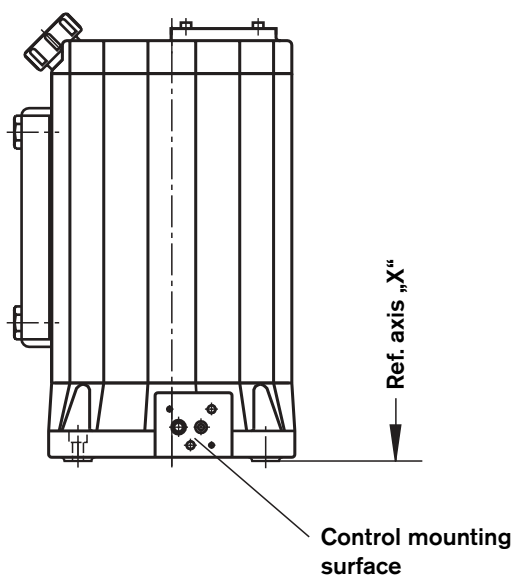
The control module IH15A for the UPE2 / UPE3 (RE 51142 / RE 51147) clamping and drive modules are used to form complete hydraulic controls. They can be individually designed and assembled. The directional valve modules and poppet valve modules can be combined.

It is possible to mount these control modules directly onto the UPE2 / UPE3 clamping and drive modules. It is possible, by using the appropriate modules, to separately fit the hydraulic controls into any system. The reducing module type RBAIH15A

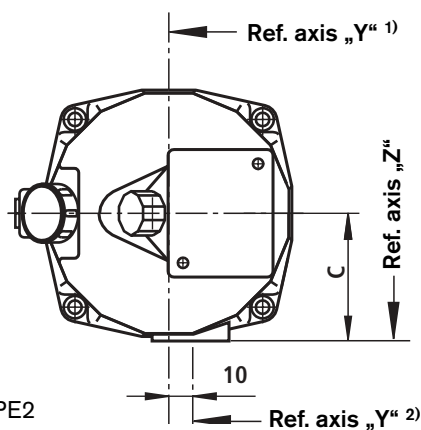
makes it possible to directly mount the IH15A module onto the reservoir cover of a conventional power unit. With the type RIH15AR reducing module it is possible to mount the hydraulic control onto the control of the IH15B control module family.

The modules are designed for use with hydraulic controls which have actuators that have low flow requirements up to 14 l/min. They are joined together via two tie rods.

### Unit dimensions (nominal dimensions in mm)



Type	NS	C
UPE2	3	85
	4	85
	5	98
	7	98
UPE3	7	135
	9	135



<sup>1)</sup> Only for UPE2

<sup>2)</sup> Only for UPE3

**X, Y and Z** are the **reference axes** for determining the installation dimensions when mounting a control block.

For calculating the installation heights the dimensions of the utilised control blocks, the height dimensions X on pages 15 to 18 and 20 to 67 have to be added together.

**Technical data** (for applications outside these parameters, please consult us!)**Hydraulic**

Installation	Optional <sup>1)</sup>		
Pressure fluid	Mineral oil (HL, HLP) to DIN 51524 part 2 other pressure fluids on request		
Pressure fluid temperature range	°C	-20 to +80 (with FKM seals) (the permissible viscosity range of the pump and valves have to be taken into account!)	
Ambient temperature range	°C	-30 to +50	
Viscosity range	mm <sup>2</sup> /s	2.8 to 500 <sup>1)</sup>	
Maximum permissible degree of pressure fluid contamination. Cleanliness class to ISO 4406 (c)	Class 20/18/15 <sup>1)</sup>		
Valve pressure stage	See the associated RE sheet		
Directional poppet valve maximum flow Type: KSER1 ...	$q_v$	l/min	20 (2/2-directional poppet valve) 12 (3/2-directional poppet valve)

**Electrical**

Voltage type	DC		
Available voltages <sup>2)</sup>	$U$	V	24
Voltage tolerance (nominal voltage)		%	±10
Power consumption	$P$	W	19 or 30 <sup>1)</sup>
Switching time to ISO 6403	ON	$T$	ms
	OFF	$T$	ms
Switching frequency		switch/h	Up to 15.000
Protection to DIN 40050 <sup>3)</sup>	IP 65		
Coil temperature <sup>4)</sup>		°C	150

<sup>1)</sup> Valve details to be taken into account

<sup>2)</sup> Special voltages on request

<sup>3)</sup> With mounted and fixed plug-in connector

<sup>4)</sup> Due to the surface temperatures of the solenoids,  
the European standards EN563 and EN982 have to be  
taken into account!

## Module overview



UPE2\_G\*

Basic module „G“

### Basic module „G“

- Basic module with integrated pressure relief valve for simple lifting/lowering or pressure maintaining functions
- When using the basic module „G“ it is not possible to fit further stacking units.
- For further details see page 8



UPE2\_W\*

Directional valve module „W“

### Directional valve module „W“

- Makes it possible to design controls using valves with a porting pattern to DIN 24340 form A
- The number of directional valve modules is dependent on the draw-off volume (usable volume) and the pump flow
- For further details see page 14



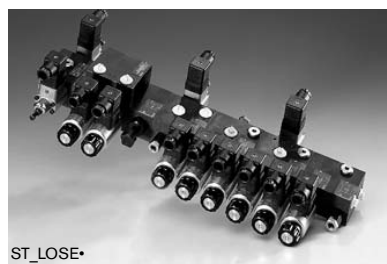
UPE2\_S\*

Poppet valve module „S“

### Poppet valve module „S“

- The poppet valve modules basically comprise of:
  - A pressure relief module
  - One or more control blocks
  - One end block
- The design of the control is dependent on the application
- The number of poppet valve modules is dependent on the draw-off volume (usable volume) and the pump flow
- For further details see page 19

## Module overview



Module for separate mounting

### Module for separate mounting

- Makes it possible to fit directional valves and poppet valve modules to a hydraulic system or machine
- For further details see page 69

## Module overview

Short code	Basic module, type: „G“	Page
GA	Connection module	9
GDB	Pressure relief module	10
GDH	Pressure maintaining module	12
GHS	Lifting/lowering module	11

Short code	Directional valve module, type: „W“	Page
WAE	Connection module with electrical unloading	15
WDB	Pressure relief module with a valve station	16
WSK	Cooler module	17
WSKY	Cooler module with Y - port	17
WZ	Sandwich module	18
WZP1	Sandwich module with P1 - port	18

Short code	Poppet valve module, type: „S“	Page
DF30DB6	Pressure filter module with pressure relief valve NS6 (P - line $p_{max} = 250$ bar)	24
F06	Filter module (flow $q_{vmax} = 6$ l/min)	20
F06DB	Filter module with pressure relief valve (flow $q_{vmax} = 6$ l/min)	21
F30DB	Filter module with pressure relief valve (T - line $p_{max} = 7$ bar)	22
F30DBU	Filter module with pressure relief valve and circulation valve (T - line $p_{max} = 7$ bar)	23
SAB4	Module SAB4	49
SAB4P1	Module SAB4 with P1 - port	50
SAT2	Module SAT2	36
SBAT2DB	Module SAT2 with pressure relief module	40
SD	Module with pressure switch	54
SDA	Pressure sequence module (see characteristic curves on page 84, application range for flows $q \geq 2$ l/min)	28
SDB	Pressure relief module	25
SDB6	Pressure relief module NS6	26
SDBU	Pressure relief module with circulation valve	27
SDP1	Module with pressure switch and P1 - port	54
SDR	Pressure reducing module	31
SDRP1	Pressure reducing module with P1 - port	31
SESA	End module with accumulator and isolator valve	64
SESAP1	End module with accumulator, isolator valve and P1 - port	65

## Module overview

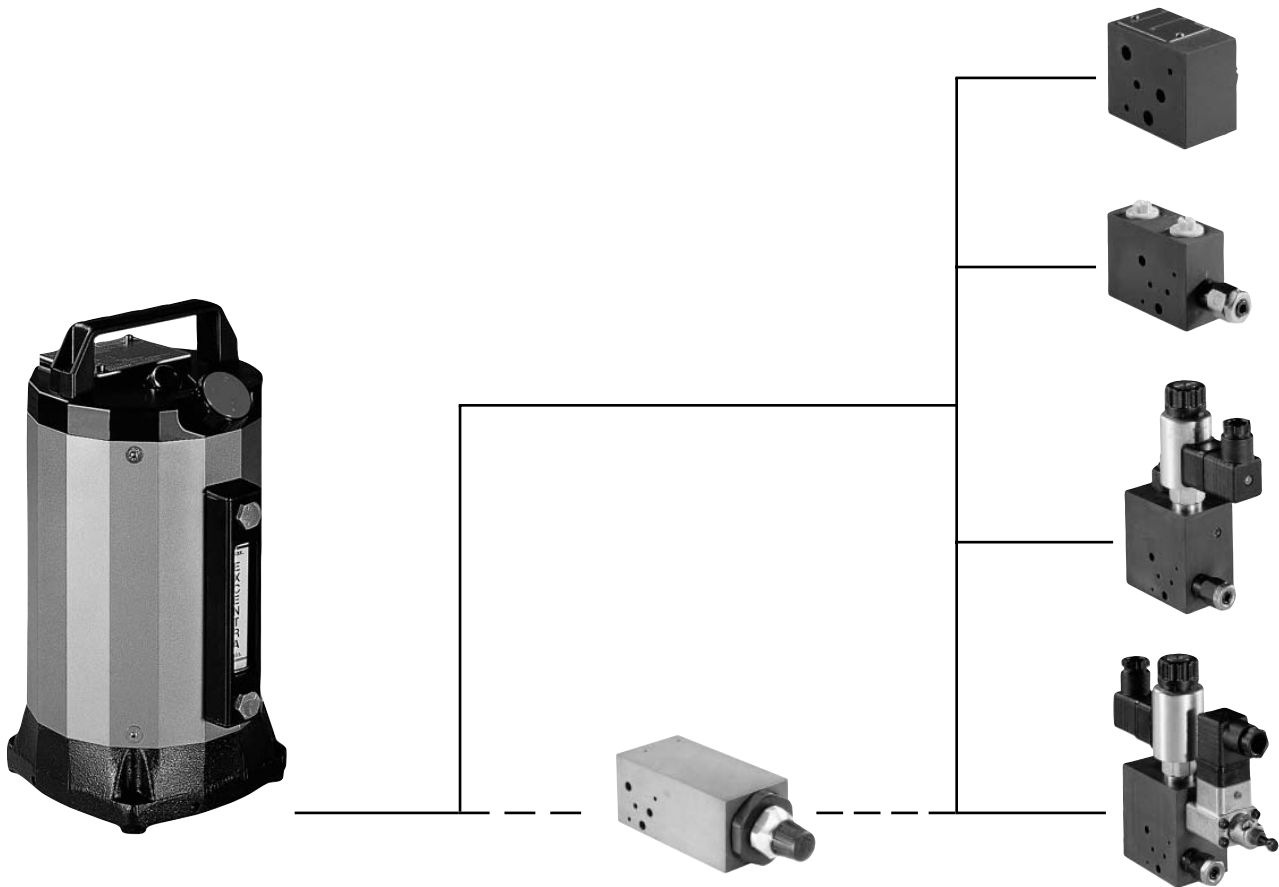
Short code	Poppet valve module, type: „S“	Page
SP	Module SP	34
SPA2	Module SPA2	35
SPA3	Module SPA3	44
SPA3P1	Module SPA3 with P1 - port	45
SPAT2	Module SPAT2	37
SPAT2DB	Module SPAT2 with pressure relief valve	39
SPAT3DB	Module SBPAT3 with pressure relief valve	47
SPBAT2DB	Module SPBAT2 with pressure relief valve	42
SPDB	Module with proportional pressure relief valve	29
SPDR	Module with proportional pressure reducing valve	30
SPP1	Module P with P1 - port	34
SR	Module with check valve	52
SSB	Accumulator safety module	67
SSBP1	Accumulator safety module with P1 - port	67
SU	Circulation module	33
SUA	Circulation module with isolator valve	32
SUAP1	Circulation module with isolator valve and P1 - port	32
SUP1	Circulation module with P1 - port	33
SZP1	Sandwich module with P1 - port blocked	56
WSE	Directional poppet valve module	57
WSED	End module with pressure switch	58
WSEDA	End module with pressure switch and isolator valve	61
WSEDAP1	End module with pressure switch, isolator valve and P1 - port	62
WSEDP1	End module with pressure switch and P1 - port	59
WSEP1	End module with P1 - port	57

Short code	Module for separate mounting	Page
A	Connection module	70
ADB	Connection module with pressure relief valve	71
E	End module	73
EP1	End module with P1 - port	73
Z	Sandwich module	72
ZP1	Sandwich module with P1 - port	72

Short code	Reducing module, type: „R“	Page
RBAIH15A	Reservoir connection module with reducer to suit IH15A	74
RIH15AR	Reducer module IH15B on IH15A (right)	74

Short code	Module with threads for line mounting	Page
SDRG	Pressure reducing module with threaded connections	75
SPA2G	Module SPA2 with thread connection	76
SPA3G	Module SPA3 with thread connection	77

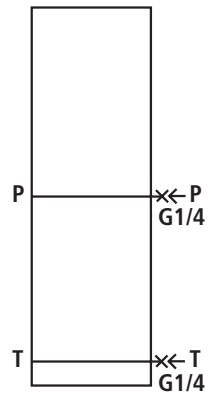
## Basic module, type „G“: Modules



**Basic module, type „G“ (nominal dimensions in mm)**

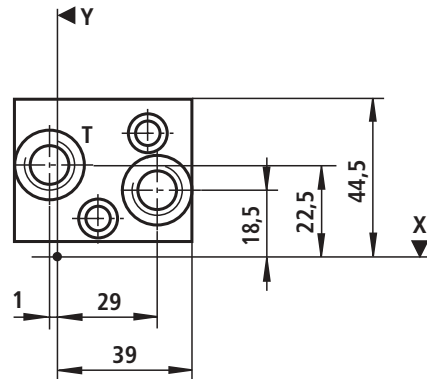
Connection module, type „GA“

Symbol



Unit dimensions

Dim. Z = 30 mm



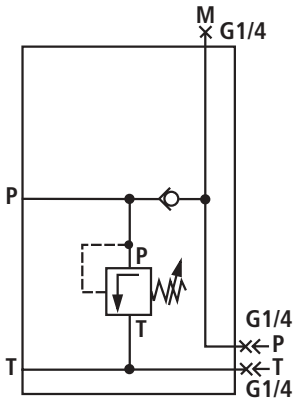
Material No.	Component description	Type code
	Connection module	IH15MA-1X/GA- <sup>26</sup> <input type="text"/>
R900992205		IH15MA-1X/GA-V

<sup>26</sup> <input type="text"/> Seal	Seal material	FKM	= V
---	---------------	-----	-----

**Basic module, type „G“ (nominal dimensions in mm)**

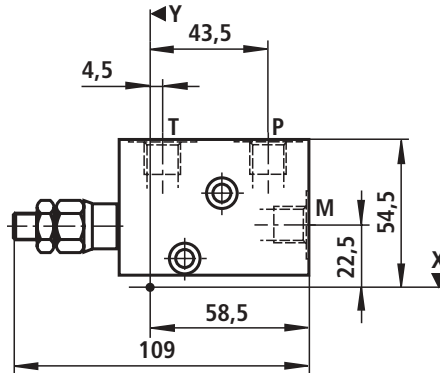
**Pressure relief module, type „GDB“**

**Symbol**



**Unit dimensions**

Dim. Z = 30 mm



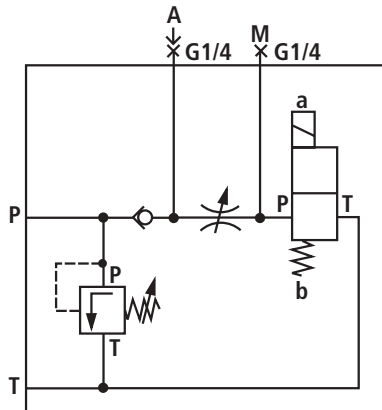
Material No.	Component description	Type code
	Pressure relief module	IH15EA-1X/GDB- <input type="checkbox"/> 1 <input type="checkbox"/> 2 / <input type="checkbox"/> 14 / <input type="checkbox"/> 26
R900249996		IH15EA-1X/GDB-S350/D/V
R900333690		IH15EA-1X/GDB-S350/M/V
R900992206		IH15EA-1X/GDB-S350/O/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> 2	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> 14	Pressure monitoring	With NS63 pressure gauge With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

### Basic module, type „G“ (nominal dimensions in mm)

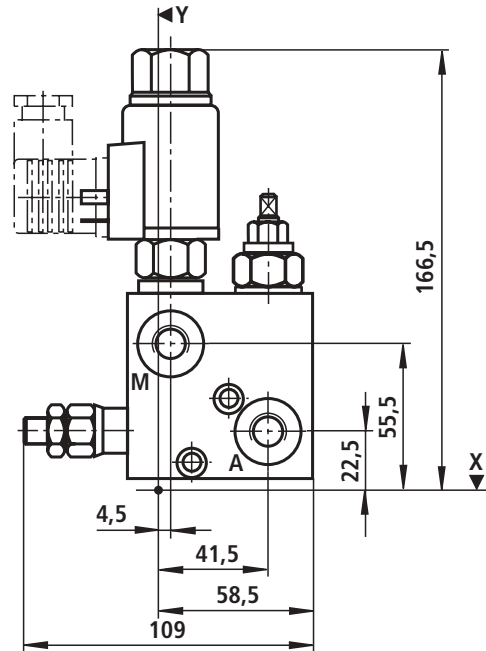
#### Lifting/lowering module, type „GHS“

Symbol



Unit dimensions

Dim. Z = 45 mm



Material No.	Component description	Type code
	Lifting/lowering module	IH15EA-1X/GHS- <input type="checkbox"/> 1 <input type="checkbox"/> 2 / <input type="checkbox"/> 14 <input type="checkbox"/> 4 <input type="checkbox"/> 8 / <input type="checkbox"/> 26
R900712062		IH15EA-1X/GHS-S350/DPG/V
R904100577		IH15EA-1X/GHS-S350/MPG/V
R901099456		IH15EA-1X/GHS-S350/OPG/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> 2	Pressure relief valve pressure stage	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500

Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive)  
Further pressure stages on request!

		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
--	--	--	--

**Characteristic curve** for the design tested pressure relief valve type: DBD 4../..E  
Design tested in accordance with the pressure component directive 97/23/EC

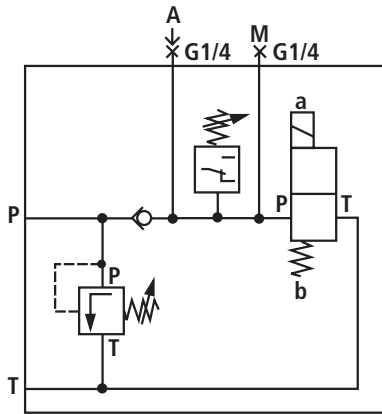
See page 79

<input type="checkbox"/> 4	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="checkbox"/> 8	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="checkbox"/> 14	Pressure monitoring	With pressure gauge NG63 With test point With pressure monitoring	= D = M = O
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

**Basic module, type „G“ (nominal dimensions in mm)**

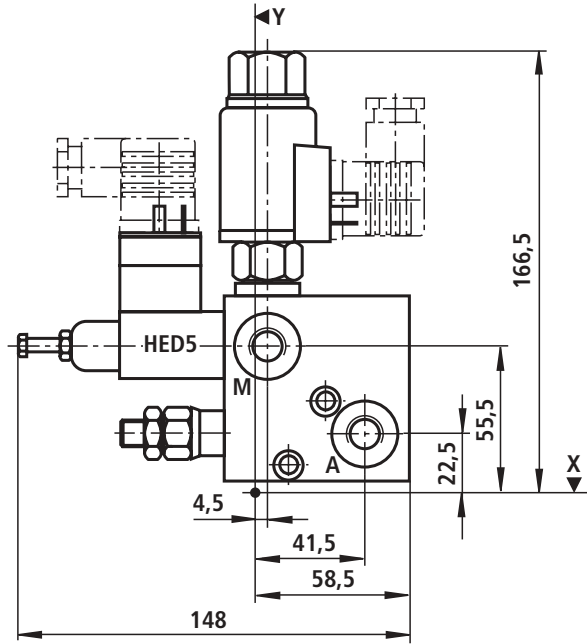
**Pressure maintaining module, type „GDH“**

Symbol

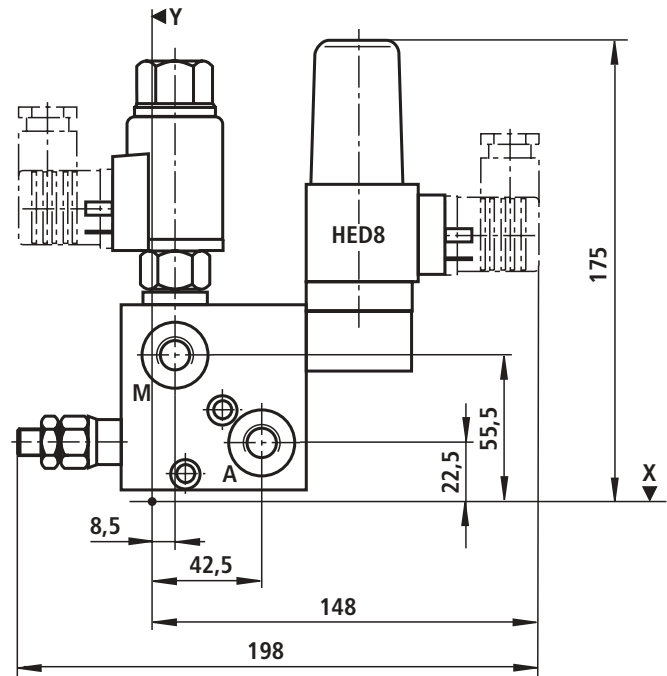


Unit dimensions

Dim. Z = 45 mm



Dim. Z = 45 mm

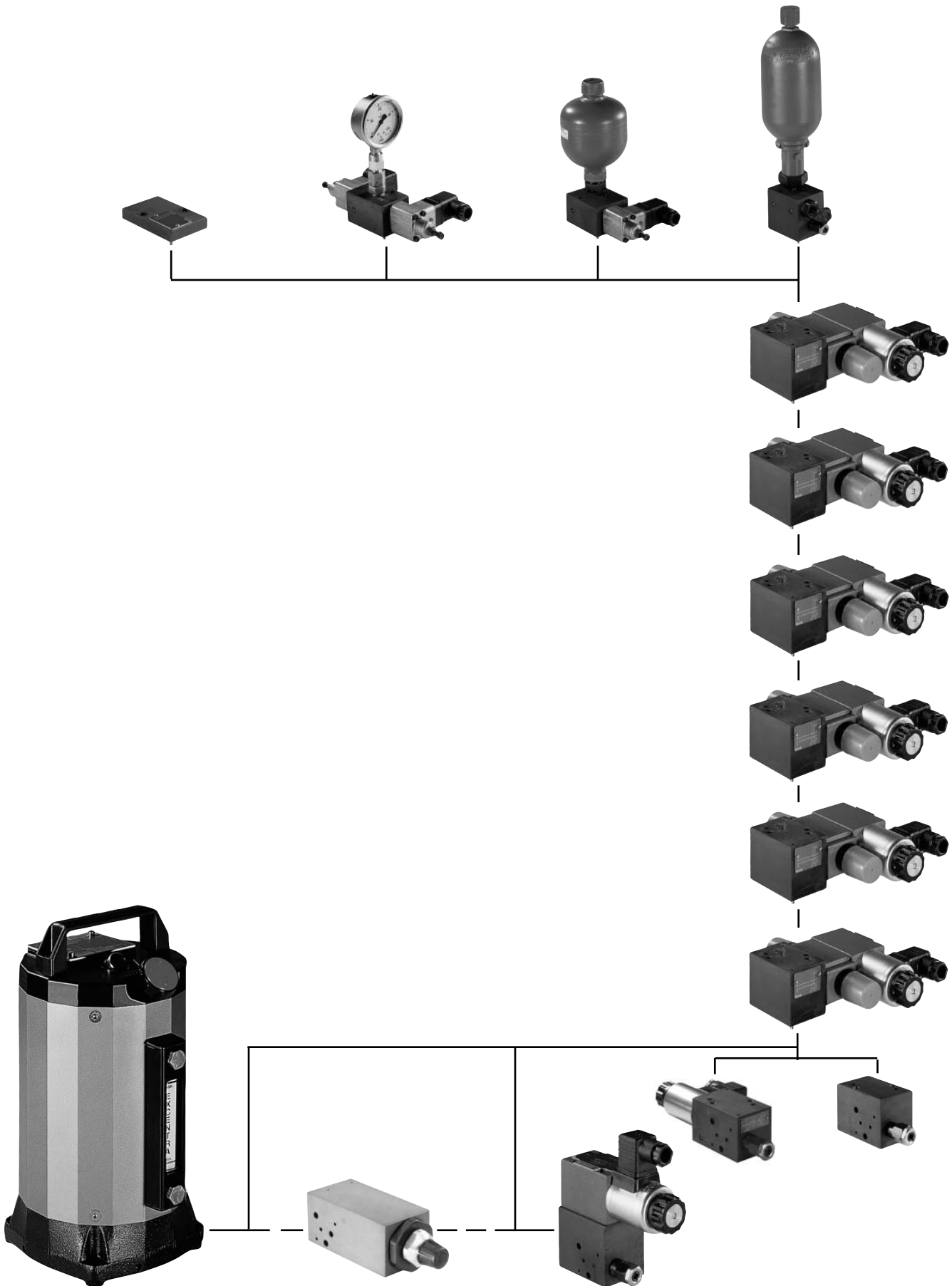


**Basic module, type „G“ (nominal dimensions in mm)**

Material No.	Component description	Type code
	Pressure maintaining module	IH15EA-1X/GDH- <input type="checkbox"/> <sup>1</sup> <input type="checkbox"/> <sup>2</sup> / <input type="checkbox"/> <sup>14</sup> <input type="checkbox"/> <sup>4</sup> <input type="checkbox"/> <sup>11</sup> <input type="checkbox"/> <sup>8</sup> / <input type="checkbox"/> <sup>26</sup>
R900714698		IH15EA-1X/GDH-S350/DPHED8G24/V
R901099353		IH15EA-1X/GDH-S350/MPHED8G24/V
R900266488		IH15EA-1X/GDH-S350/OPHED8G24/V

<input type="checkbox"/> <sup>1</sup>	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> <sup>2</sup>	Pressure relief valve pressure ratings	Pressure settable up to max. 50 bar Pressure settable up to max. 100 bar Pressure settable up to max. 200 bar Pressure settable up to max. 350 bar Pressure settable up to max. 500 bar	= 50 = 100 = 200 = 350 = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. 210 bar Pressure settable up to max. 250 bar Pressure settable up to max. 400 bar Pressure settable up to max. 500 bar	= 210E = 250E = 400E = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> <sup>4</sup>	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="checkbox"/> <sup>8</sup>	Poppet valve solenoid voltage	Volt 24 V DC	= G24
<input type="checkbox"/> <sup>11</sup>	Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K14	= No code = HED 5 = HED 8
<input type="checkbox"/> <sup>14</sup>	Pressure monitoring	With NS63 pressure gauge With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> <sup>26</sup>	Seal	Seal material FKM	= V

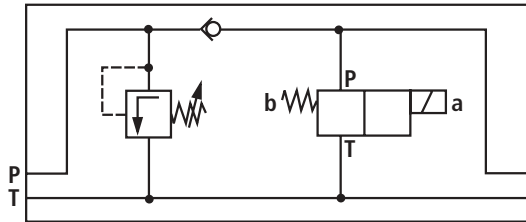
## Directional valve module, type „W“: Modules



## Directional valve module, type „W“ (nominal dimensions in mm)

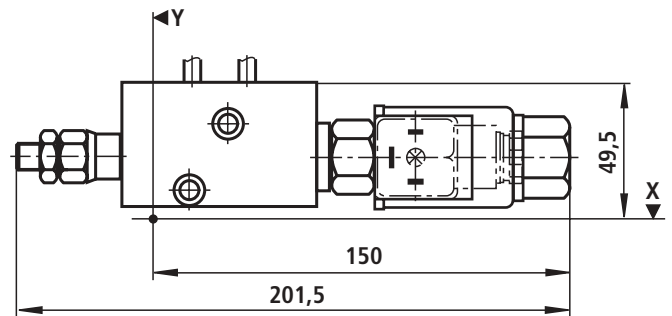
Connection module with electrical unloading, type „WAE“

Symbol



Unit dimensions

Dim. Z = 45 mm



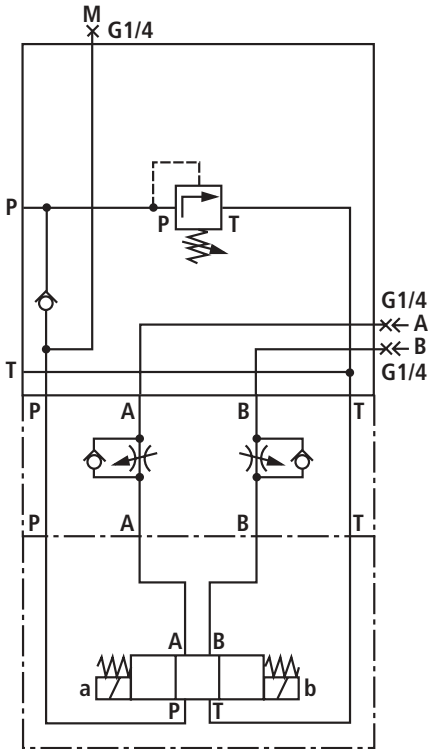
Material No.	Component description	Type code
	Connection module with electrical unloading	IH15EA-1X/WAE- <input type="text"/> 1 <input type="text"/> 2 / <input type="text"/> 4 <input type="text"/> 8 / <input type="text"/> 26
R904100245		IH15EA-1X/WAE-S350/NG24/V
R900992207		IH15EA-1X/WAE-S350/PG24/V

<input type="text"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="text"/> 2	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="text"/> 4	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="text"/> 8	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="text"/> 26	Seal	Seal material	FKM = V

**Directional valve module, type „W“ (nominal dimensions in mm)**

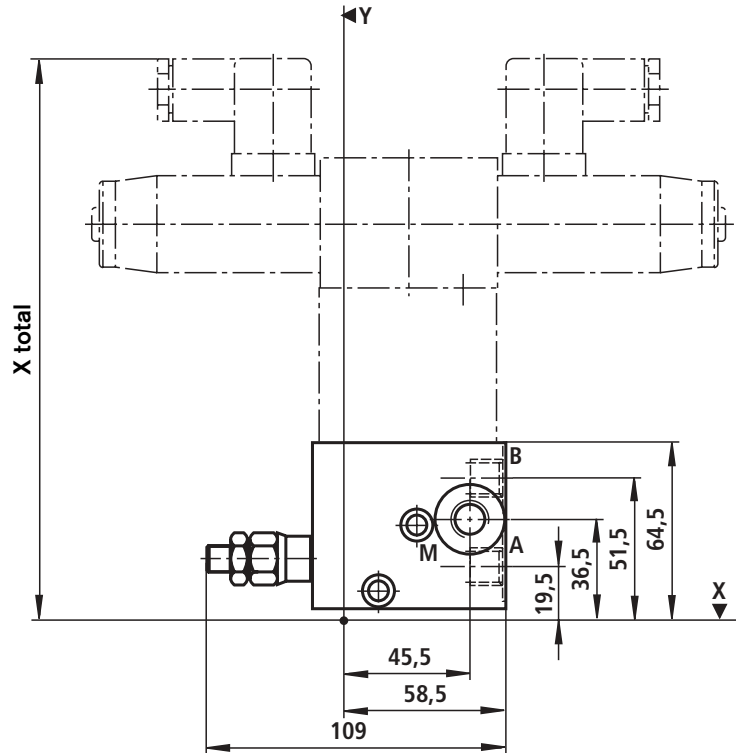
**Pressure relief module with a valve station, type „WDB“**

Symbol



Unit dimensions

Dim. Z = 50 mm



Material No.	Component description	Type code
	Pressure relief module with a valve station	IH15EA-1X/WDB- <input type="checkbox"/> 1 <input type="checkbox"/> 2 / <input type="checkbox"/> 14 <input type="checkbox"/> 26
R904101462		IH15EA-1X/WDB-S350/D/V
R904101434		IH15EA-1X/WDB-S350/M/V
R901099354		IH15EA-1X/WDB-S350/O/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> 2	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500

Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive)  
Further pressure stages on request!

		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
--	--	--	--

**Characteristic curve** for the design tested pressure relief valve type: DBD 4../.E  
Design tested in accordance with the pressure component directive 97/23/EC

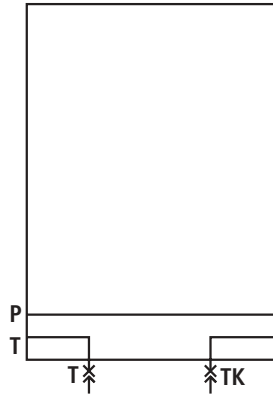
See page 79

<input type="checkbox"/> 14	Pressure monitoring	With NS63 pressure gauge With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

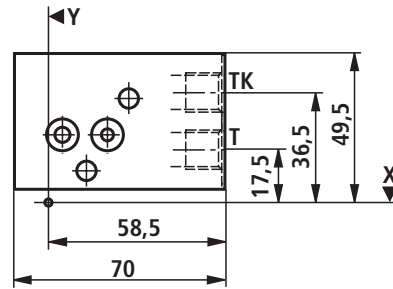
**Directional valve module, type „W“ (nominal dimensions in mm)**

**Cooler module, type „WSK“**

Symbol



Unit dimensions



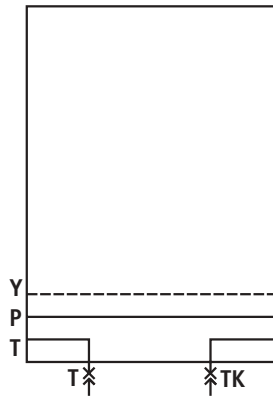
Dim. Z = 45 mm

Material No.	Component description	Type code
	Cooler module	IH15EA-1X/WSK- <input type="text" value="26"/>
R904100535		IH15EA-1X/WSK-V

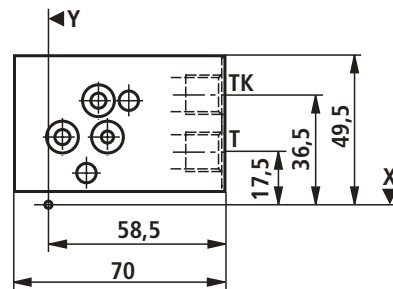
<input type="text" value="26"/> Seal	Seal material	FKM	= V
--------------------------------------	---------------	-----	-----

**Cooler module with Y - port, type „WSKY“**

Symbol



Unit dimensions



Dim. Z = 45 mm

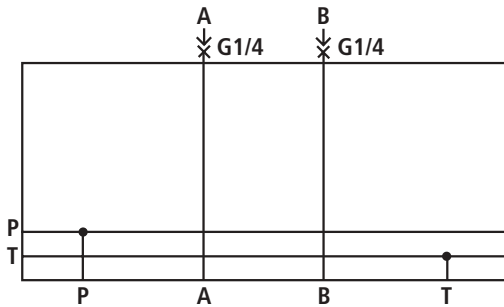
Material No.	Component description	Type code
	Cooler module with Y - port	IH15EA-1X/WSKY- <input type="text" value="26"/>
R901107072		IH15EA-1X/WSKY-V

<input type="text" value="26"/> Seal	Seal material	FKM	= V
--------------------------------------	---------------	-----	-----

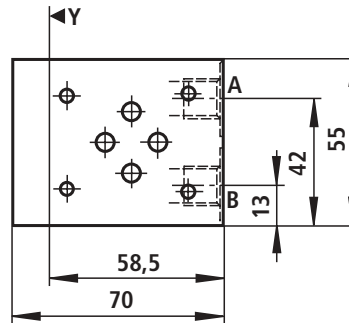
**Directional valve module, type „W“ (nominal dimensions in mm)**

**Sandwich module, type „WZ“**

Symbol



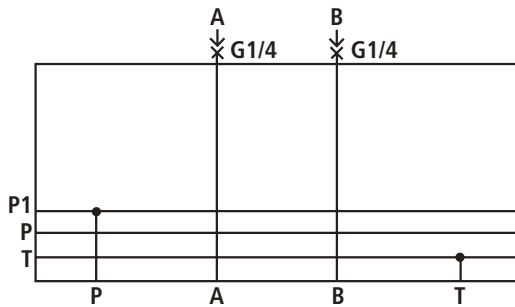
Unit dimensions



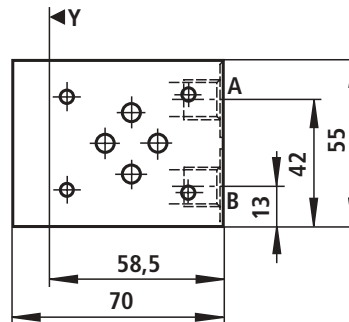
Dim. Z = 45 mm

**Sandwich module with P1-port, type „WZP1“**

Symbol



Unit dimensions



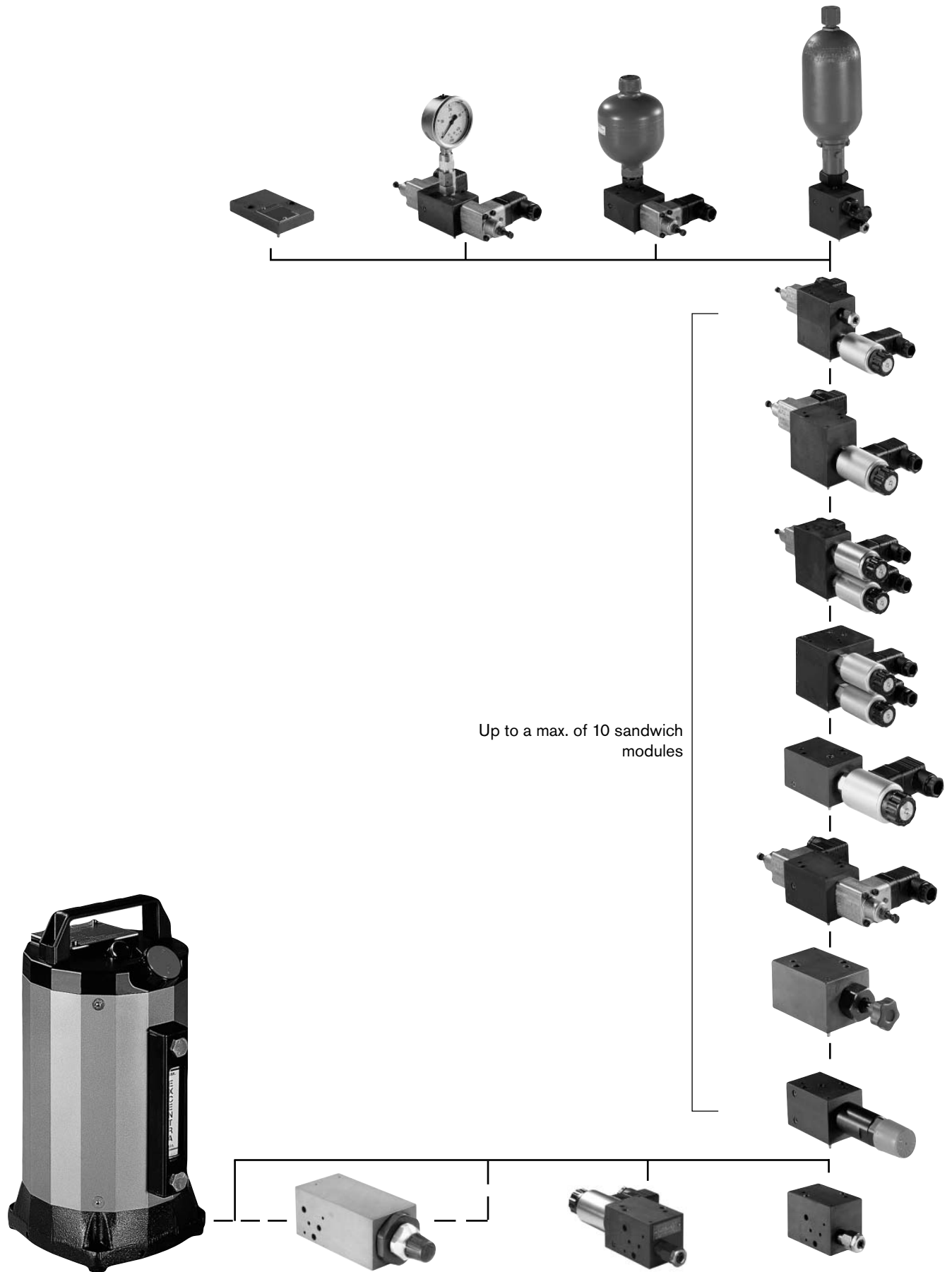
Dim. Z = 45 mm

Material No.	Component description	Type code
	Sandwich module	IH15EA-1X/WZ- <input type="text" value="26"/>
R900991532		IH15EA-1X/WZ-V

Material No.	Component description	Type code
	Sandwich module with P1 - port	IH15EA-1X/WZP1- <input type="text" value="26"/>
R904100110		IH15EA-1X/WZP1-V

<input type="text" value="26"/> Seal	Seal material	FKM	= V
--------------------------------------	---------------	-----	-----

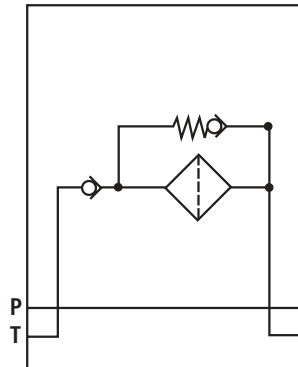
# Poppet valve module, Typ „S“: Modules



### Poppet valve module, type „S“ (nominal dimensions in mm)

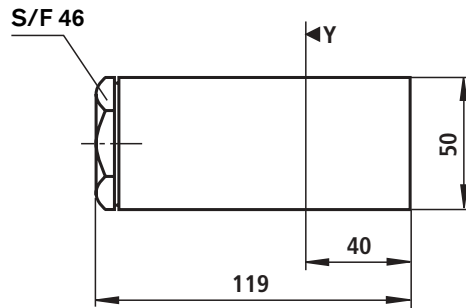
**Filter module, type „F06“**  
 (max. flow  $q_{vmax} = 6 \text{ l/min}$ )

**Symbol**



**Unit dimensions**

Dim. Z = 55 mm



**Spare part:** Filter element, see page 87

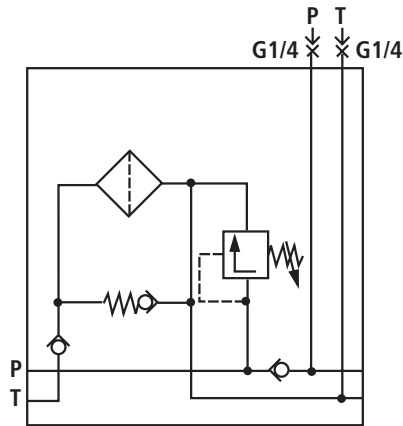
Material No.	Component description	Type code
	Filter module	IH15EA-1X/F06- <input type="checkbox"/> <sup>19</sup> / <input type="checkbox"/> <sup>20</sup> / <input type="checkbox"/> <sup>26</sup>
R900260940		IH15EA-1X/F06-10/A/V
R900242844		IH15EA-1X/F06-10/E/V
R900992204		IH15EA-1X/F06-10/O/V

<input type="checkbox"/> <sup>19</sup> Filter rating		06 $\mu\text{m}$ 10 $\mu\text{m}$	= 06 = 10
<input type="checkbox"/> <sup>20</sup> Clogging indicator	Without clogging indicator Optical clogging indicator Electrical clogging indicator		= A = O = E
<input type="checkbox"/> <sup>26</sup> Seal	Seal material	FKM	= V

### Poppet valve module, type „S“ (nominal dimensions in mm)

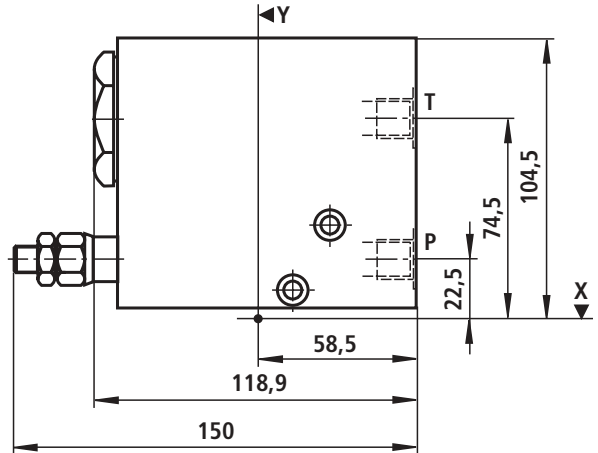
**Filter module with pressure relief valve, type „F06DB“**  
 (max. flow  $q_{vmax} = 6 \text{ l/min}$ )

**Symbol**



**Unit dimensions**

**Dim. Z = 55 mm**



**Spare part:** Filter element, see page 87

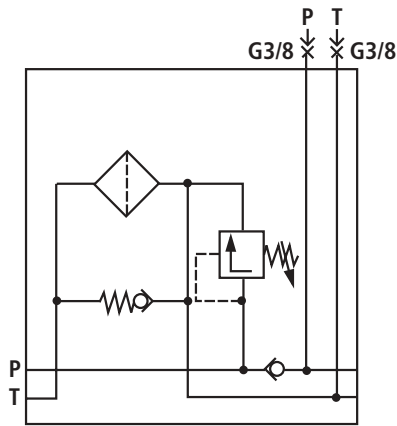
Material No.	Component description	Type code
	Filter module with pressure relief valve	IH15EA-1X/F06DB- <input type="checkbox"/> 1 <input type="checkbox"/> 2 / <input type="checkbox"/> 19 / <input type="checkbox"/> 20 / <input type="checkbox"/> 26
R900993488		IH15EA-1X/F06DB-S350/10/A/V
R900702053		IH15EA-1X/F06DB-S350/10/E/V
R904100676		IH15EA-1X/F06DB-S350/10/O/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> 2	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> 19	Filter rating		06 µm = 06 10 µm = 10
<input type="checkbox"/> 20	Clogging indicator	Without clogging indicator Optical clogging indicator Electrical clogging indicator	= A = O = E
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

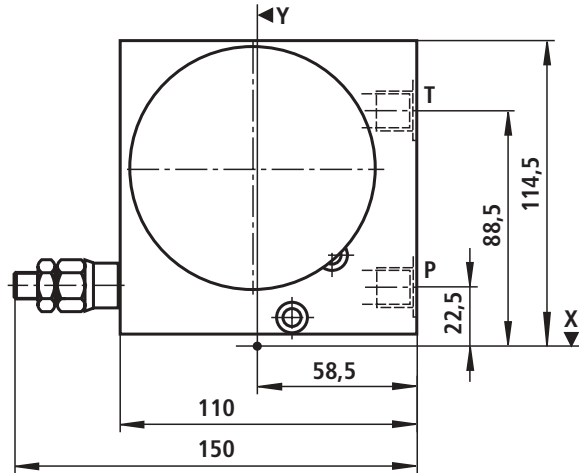
**Filter module with pressure relief valve, type „F30DB“**  
 (max. flow  $q_{vmax} = 30 \text{ l/min}$ ,  $p_{vmax} = 7 \text{ bar}$ )

Symbol



Unit dimensions

Dim. Z = 140 mm



Spare part: Filter element, see page 87

Assembly tool: Strap wrench, Material No. R904001048

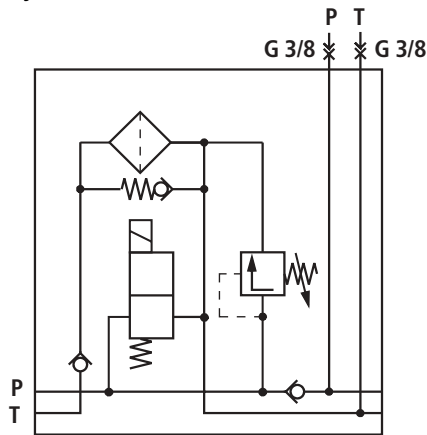
Material No.	Component description	Type code
	Filter module with pressure relief valve	IH15EA-1X/F30DB- <input type="checkbox"/> 1 <input type="checkbox"/> 2 / <input type="checkbox"/> 19 <input type="checkbox"/> 20 <input type="checkbox"/> 26
R901099541		IH15EA-1X/F30DB-S350/10/A/V
R901099029		IH15EA-1X/F30DB-S350/10/E/V
R904100109		IH15EA-1X/F30DB-S350/10/O/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with hexagon Rotary knob	= S = H
<input type="checkbox"/> 2	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> 19	Filter rating	06 $\mu\text{m}$ 10 $\mu\text{m}$	= 06 = 10
<input type="checkbox"/> 20	Clogging indicator	Without clogging indicator Optical clogging indicator Electrical clogging indicator	= A = O = E
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

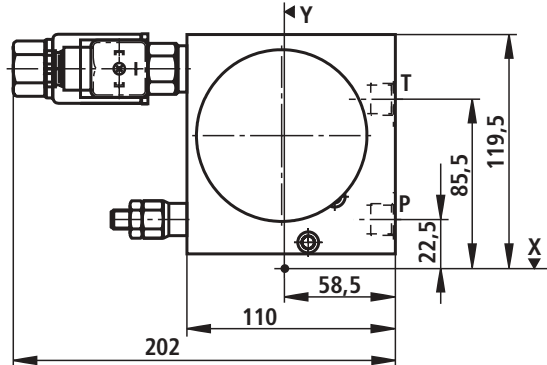
Filter module with pressure relief valve and circulation valve, type „F30DBU“  
(max. flow  $q_{vmax} = 30$  l/min,  $p_{vmax} = 7$  bar)

**Symbol**



**Unit dimensions**

Dim. Z = 140 mm



**Spare part:** Filter element, see page 87  
**Assembly tool:** strap wrench, Material No. R904001048

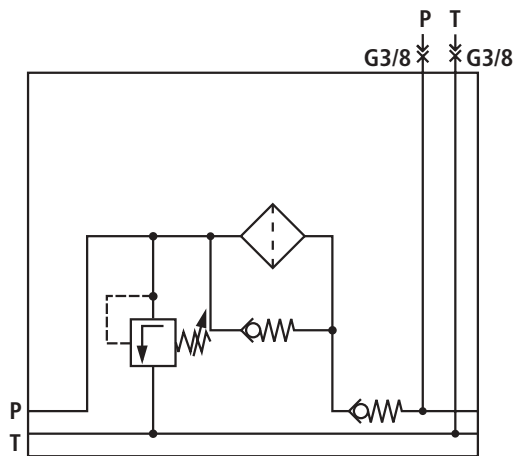
Material No.	Component description	Type code
	Filter module with pressure relief valve and circulation valve	IH15EA-1X/F30DBU- <input type="checkbox"/> 1 <input type="checkbox"/> 2 / <input type="checkbox"/> 4 <input type="checkbox"/> 8 / <input type="checkbox"/> 19 / <input type="checkbox"/> 20 / <input type="checkbox"/> 26
R901099530		IH15EA-1X/F30DBU-S200/PG24/10/A/V
R904102272		IH15EA-1X/F30DBU-S200/PG24/10/E/V
R901095317		IH15EA-1X/F30DBU-S200/PG24/10/O/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> 2	Pressure relief valve pressure ratings	Pressure settable up to max. 50 bar Pressure settable up to max. 100 bar Pressure settable up to max. 200 bar Pressure settable up to max. 350 bar Pressure settable up to max. 500 bar	= 50 = 100 = 200 = 350 = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. 210 bar Pressure settable up to max. 250 bar Pressure settable up to max. 400 bar Pressure settable up to max. 500 bar	= 210E = 250E = 400E = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> 4	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="checkbox"/> 8	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="checkbox"/> 19	Filter rating	06 µm 10 µm	= 06 = 10
<input type="checkbox"/> 20	Clogging indicator	Without clogging indicator Optical clogging indicator Electrical clogging indicator	= A = O = E
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

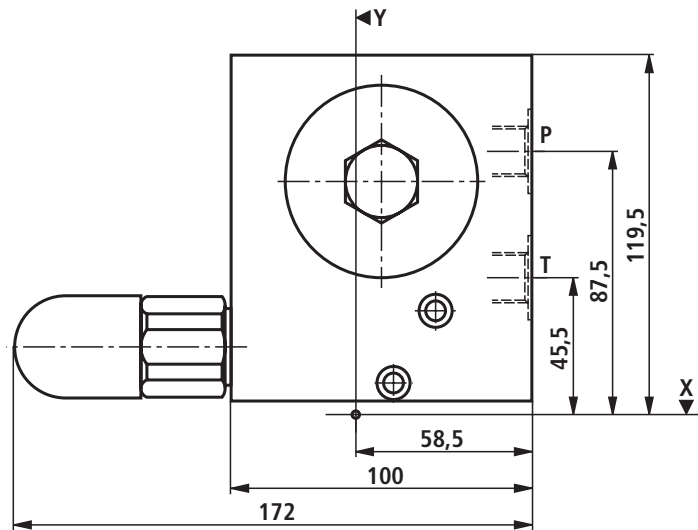
**Pressure filter module with pressure relief valve NS6, type „DF30DB6“**  
 (max. flow  $q_{vmax} = 30 \text{ l/min}$ ,  $p_{vmax} = 250 \text{ bar}$ )

Symbol



Unit dimensions

Dim. Z = 55 mm



Spare part: Filter element, see page 87

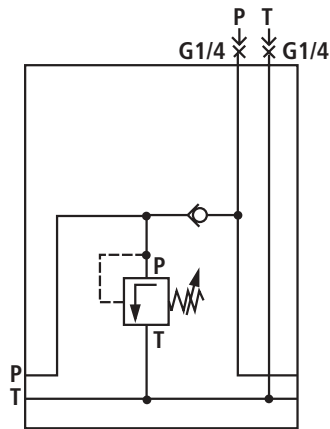
Material No.	Component description	Type code
	Pressure filter module with pressure relief valve NS6	IH15EA-1X/DF30DB6- <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/> / <input type="checkbox"/>
R901099527		IH15EA-1X/DF30DB6-S350/10/A/V
R901099528		IH15EA-1X/DF30DB6-S350/10/E/V
R901099524		IH15EA-1X/DF30DB6-S350/10/O/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon and protective cap Rotary knob Lockable rotary knob	= S = H = A
<input type="checkbox"/> 2	Pressure relief valve pressure ratings (NS6)	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 315 bar = 315
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	= 50E = 100E = 140E = 210E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 6../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 80
<input type="checkbox"/> 19	Filter ratings		10 $\mu\text{m}$ = 10
<input type="checkbox"/> 20	Clogging indicator	Without clogging indicator Optical clogging indicator Electrical clogging indicator	= A = O = E
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

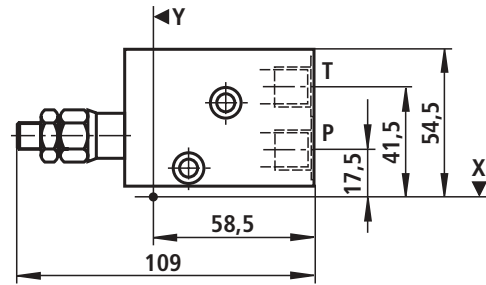
#### Pressure relief module, type „SDB“

Symbol



Unit dimensions

Dim. Z = 45 mm



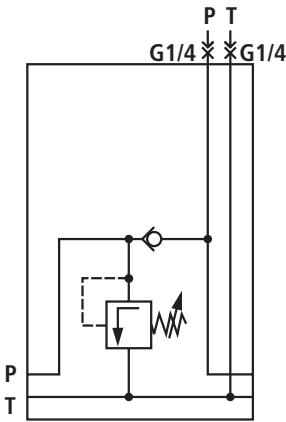
Material No.	Component description	Type code
	Pressure relief module	IH15EA-1X/SDB - <input type="text"/> <input type="text"/> / <input type="text"/>
R900991533		IH15EA-1X/SDB-S200/V
R900992138		IH15EA-1X/SDB-S350/V
R900242499		IH15EA-1X/SDB-S500/V

<input type="text"/>	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="text"/>	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="text"/>	Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

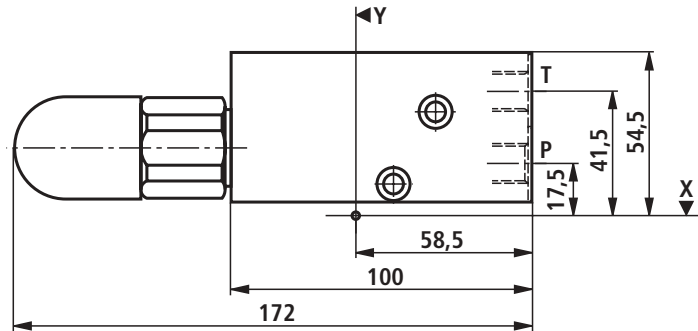
Pressure relief module, NS6, type „SDB6“

Symbol



Unit dimensions

Dim. Z = 45 mm



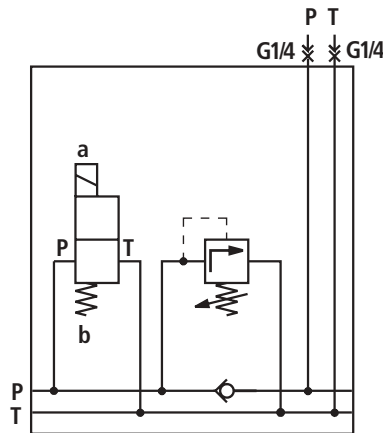
Material No.	Component description	Type code
	Pressure relief module NS6	IH15EA-1X/SDB6 - <input type="text"/> <sup>1</sup> <input type="text"/> <sup>2</sup> / <input type="text"/> <sup>26</sup>
R904101817		IH15EA-1X/SDB6-S50/V
R901099611		IH15EA-1X/SDB6-S100/V
R901099613		IH15EA-1X/SDB6-S200/V
R901099614		IH15EA-1X/SDB6-S315/V

<input type="text"/>	<sup>1</sup> Pressure relief valve adjustment element	Grub screw with internal hexagon and protective cap Rotary knob Lockable rotary knob	= S = H = A
<input type="text"/>	<sup>2</sup> Pressure relief valve pressure ratings (NS6)	Pressure settable up to max. 50 bar Pressure settable up to max. 100 bar Pressure settable up to max. 200 bar Pressure settable up to max. 315 bar	= 50 = 100 = 200 = 315
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. 50 bar Pressure settable up to max. 100 bar Pressure settable up to max. 140 bar Pressure settable up to max. 210 bar Pressure settable up to max. 330 bar	= 50E = 100E = 140E = 210E = 330E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 6../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 80
<input type="text"/>	<sup>26</sup> Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

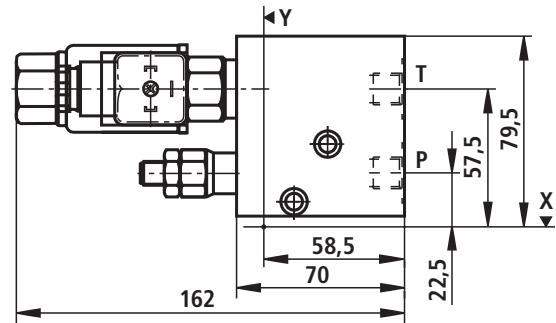
Pressure relief module with circulation valve, type „SDBU“

Symbol



Unit dimensions

Dim. Z = 45 mm



Material No.	Component description	Type code
	Pressure relief module with circulation valve	IH15EA-1X/SDBU- <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/>
R901099615		IH15EA-1X/SDBU-S350/NG24/V
R904101274		IH15EA-1X/SDBU-S350/PG24/V

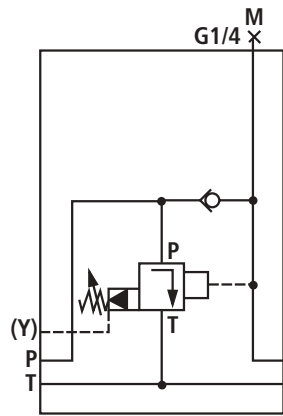
<input type="text"/>	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="text"/>	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar 100 bar 200 bar 350 bar 500 bar = 50 = 100 = 200 = 350 = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar 250 bar 400 bar 500 bar = 210E = 250E = 400E = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="text"/>	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="text"/>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="text"/>	Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

#### Pressure sequence module, type „SDA“

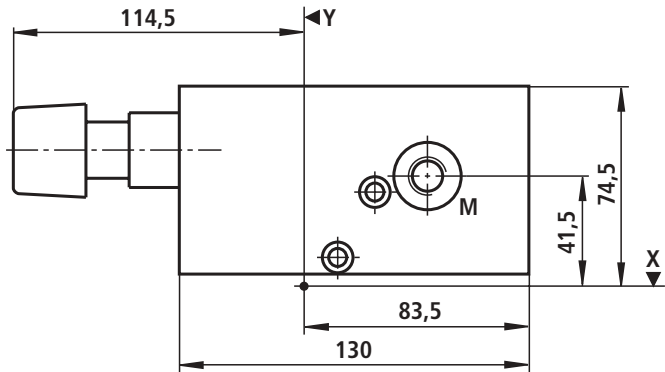
(see characteristic curves on page 84, application range for flows  $q \geq 2$  l/min)

#### Symbol



#### Unit dimensions

Dim. Z = 45 mm



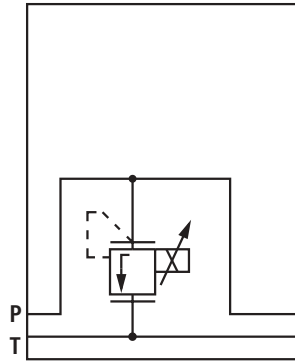
Material No.	Component description	Type code
	Pressure sequence module	IH15EA-1X/SDA- <input type="checkbox"/> <sup>23</sup> / <input type="checkbox"/> <sup>24</sup> - <input type="checkbox"/> <sup>25</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>26</sup>
R900249999		IH15EA-1X/SDA-3/ 50-17/O/V
R900260992		IH15EA-1X/SDA-3/100-17/O/V
R900705519		IH15EA-1X/SDA-7/200-17/O/V
R900705520		IH15EA-1X/SDA-7/315-17/O/V

<input type="checkbox"/> <sup>14</sup>	Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> <sup>23</sup>	Pressure sequence valve adjustment element	Rotary knob Sleeve with hexagon and protective cap Lockable rotary knob with scale Rotary knob with scale	= 1 = 2 = 3 = 7
<input type="checkbox"/> <sup>24</sup>	Pressure sequence valve pressure rating	Pressure settable up to max. 50 bar Pressure settable up to max. 100 bar Pressure settable up to max. 200 bar Pressure settable up to max. 315 bar	= 50 = 100 = 200 = 315
<input type="checkbox"/> <sup>25</sup>	Switching pressure differential	Switching pressure differential 10% Switching pressure differential 17%	= 10 = 17
<input type="checkbox"/> <sup>26</sup>	Seal	Seal material FKM	= V

**Poppet valve module, type „S“ (nominal dimensions in mm)**

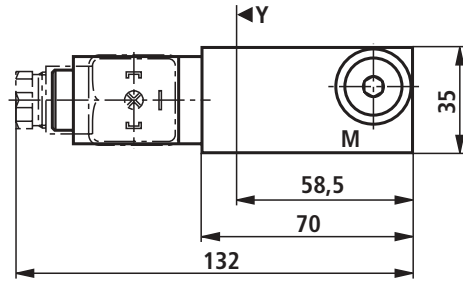
**Proportional pressure relief module, type „SPDB“**

Symbol



Unit dimensions

Dim. Z = 45 mm



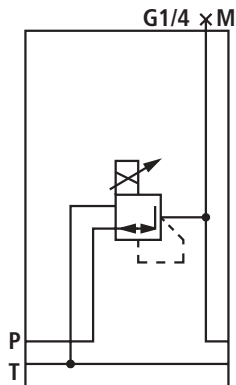
Material No.	Component description	Type code
	Proportional pressure relief module	IH15EA-1X/SPDB- <input type="text" value="24"/> <input type="text" value="8"/> / <input type="text" value="26"/>
R904101391		IH15EA-1X/SPDB-100G24/V
R900993538		IH15EA-1X/SPDB-315G24/V

<input type="text" value="8"/>	Poppet valve solenoid voltage	Volt	24 V DC	= G24
<input type="text" value="24"/>	Pressure sequence valve pressure rating	Pressure settable up to max.	50 bar	= 50
		Pressure settable up to max.	100 bar	= 100
		Pressure settable up to max.	200 bar	= 200
		Pressure settable up to max.	315 bar	= 315
<input type="text" value="26"/>	Seal	Seal material	FKM	= V

### Poppet valve module, type „S“ (nominal dimensions in mm)

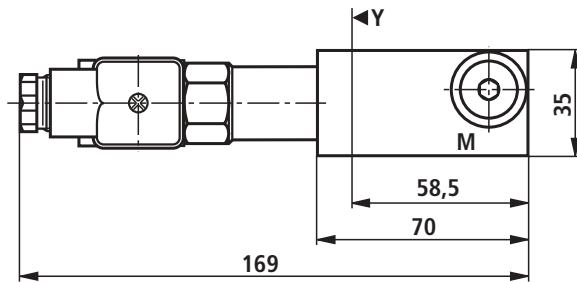
#### Proportional pressure reducing module, type „SPDR“

**Symbol**



**Unit dimensions**

Dim. Z = 45 mm

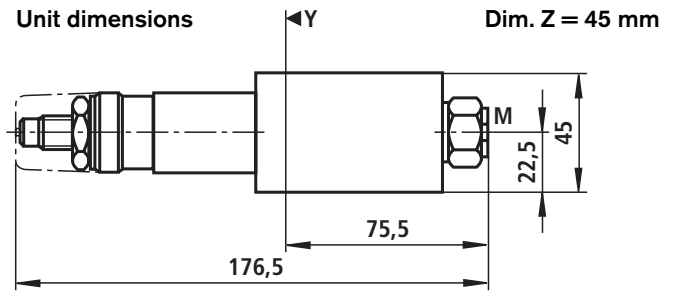
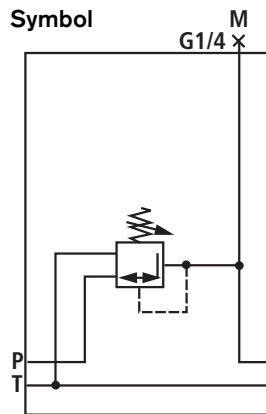


Material No.	Component description	Type code
	Proportional pressure reducing module	IH15EA-1X/SPDR- <input type="text" value="24"/> / <input type="text" value="14"/> <input type="text" value="8"/> / <input type="text" value="26"/>
R904101209		IH15EA-1X/SPDR-315/DG24/V

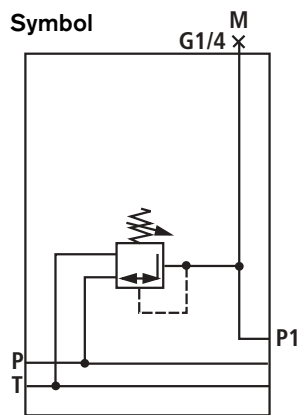
<input type="text" value="8"/>	Poppet valve solenoid voltage	Volt	24 V DC	= G24
<input type="text" value="14"/>	Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring		= D = M = O
<input type="text" value="24"/>	Pressure sequence valve pressure rating	Pressure settable up to max.	50 bar	= 50
		Pressure settable up to max.	100 bar	= 100
		Pressure settable up to max.	200 bar	= 200
		Pressure settable up to max.	315 bar	= 315
<input type="text" value="26"/>	Seal	Seal maerial	FKM	= V

### Poppet valve module, type „S“ (nominal dimensions in mm)

Pressure reducing module, type „SDR“



Pressure reducing module with P1 - port, type „SDRP1“



Material No.	Component description	Type code
	Pressure reducing module	IH15EA-1X/SDR- <input type="checkbox"/> <sup>16</sup> / <input type="checkbox"/> <sup>17</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>26</sup>
R904101712		IH15EA-1X/SDR-2/210/D/V
R904100719		IH15EA-1X/SDR-2/210/M/V
R904102202		IH15EA-1X/SDR-2/210/O/V

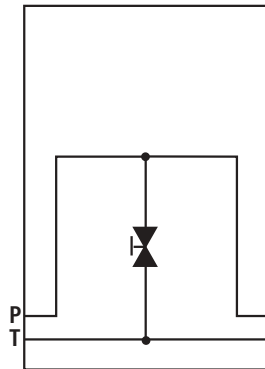
Material No.	Component description	Type code
	Pressure reducing module with P1 - port	IH15EA-1X/SDRP1- <input type="checkbox"/> <sup>16</sup> / <input type="checkbox"/> <sup>17</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>26</sup>
R904100561		IH15EA-1X/SDRP1-2/210/D/V
R904100659		IH15EA-1X/SDRP1-2/210/M/V
R901099714		IH15EA-1X/SDRP1-2/210/O/V

<input type="checkbox"/> <sup>14</sup> Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O	
<input type="checkbox"/> <sup>16</sup> Adjustment element	Grub screw with internal hexagon and protective cap	= 2	
<input type="checkbox"/> <sup>17</sup> Secondary pressure	Max. secondary pressure Max. secondary pressure Max. secondary pressure Max. secondary pressure	25 bar 75 bar 150 bar 210 bar	= 25 = 75 = 150 = 210
<input type="checkbox"/> <sup>26</sup> Seal	Seal material	FKM	= V

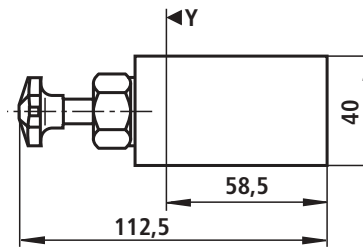
### Poppet valve module, type „S“ (nominal dimensions in mm)

Circulation module with isolator valve, type „SUA“

Symbol



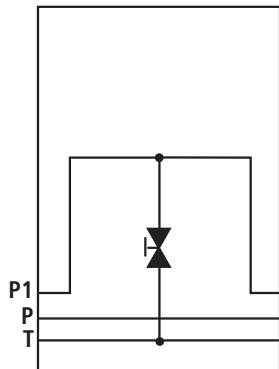
Unit dimensions



Dim. Z = 45 mm

Circulation module with isolator valve and P1 - port, type „SUAP1“

Symbol



Material No.	Component description	Type code
	Circulation module with isolator valve	IH15EA-1X/SUA- <input type="text" value="26"/>
R900992137		IH15EA-1X/SUA-V

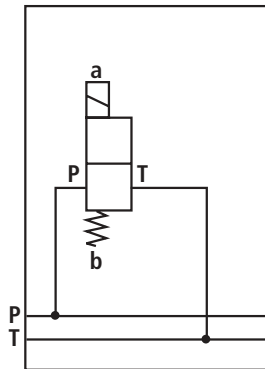
Material No.	Component description	Type code
	Circulation module with isolator valve and P1 - port	IH15EA-1X/SUAP1- <input type="text" value="26"/>
R901099721		IH15EA-1X/SUAP1-V

<input type="text" value="26"/> Seal	Seal material	FKM	= V
--------------------------------------	---------------	-----	-----

### Poppet valve module, type „S“ (nominal dimensions in mm)

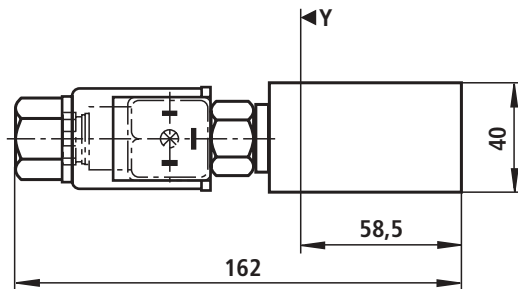
#### Circulation module, type „SU“

##### Symbol



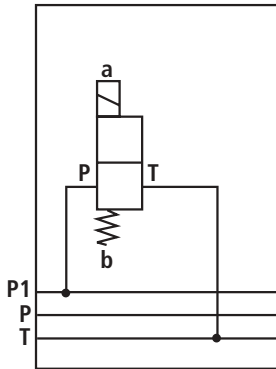
##### Unit dimensions

Dim. Z = 45 mm



#### Circulation module with P1 - port, type „SUP1“

##### Symbol



Material No.	Component description	Type code
	Circulation module	IH15EA-1X/SU- <input type="text" value="4"/> <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R900337092		IH15EA-1X/SU-NG24/350/V
R900992143		IH15EA-1X/SU-PG24/350/V

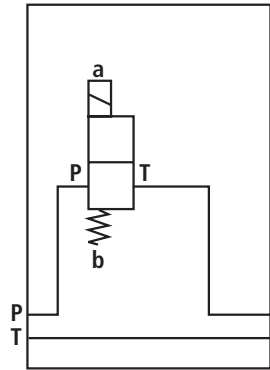
Material No.	Component description	Type code
	Circulation module with P1 - port	IH15EA-1X/SUP1- <input type="text" value="4"/> <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R901099723		IH15EA-1X/SUP1-PG24/350/V

<input type="text" value="4"/>	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="text" value="7"/>	Poppet valve pressure rating	$p_{max}$ $p_{max}$	= 350 bar = 500 bar = 350 = 500
<input type="text" value="8"/>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="text" value="26"/>	Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

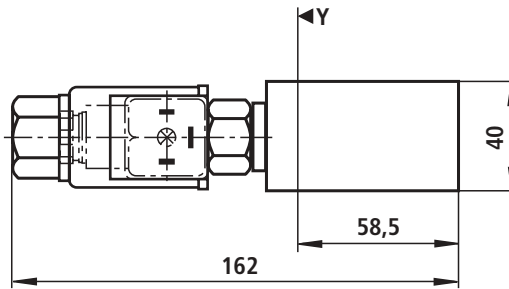
#### Module P, type „SP“

##### Symbol



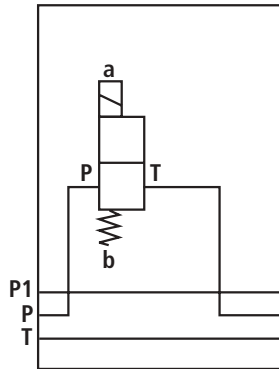
##### Unit dimensions

Dim. Z = 45 mm



#### Module P with P1 - port, type „SPP1“

##### Symbol



Material No.	Component description	Type code
	Module SP	IH15EA-1X/SP- <input type="text" value="4"/> <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R900993536		IH15EA-1X/SP-NG24/350/V
R904101690		IH15EA-1X/SP-NG24/500/V
R904100795		IH15EA-1X/SP-PG24/350/V
R904101683		IH15EA-1X/SP-PG24/500/V

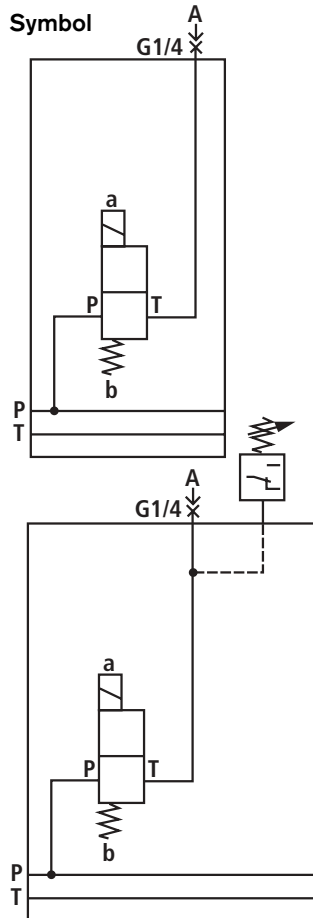
Material No.	Component description	Type code
	Module SP with P1 - port	IH15EA-1X/SPP1- <input type="text" value="4"/> <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R904102280		IH15EA-1X/SPP1-PG24/350/V

<input type="text" value="4"/>	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="text" value="7"/>	Poppet valve pressure rating	$p_{max}$ $p_{max}$	= 350 bar = 500 bar = 350 = 500
<input type="text" value="8"/>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="text" value="26"/>	Seal	Seal material	FKM = V

### Poppet valve module, type „S“ (nominal dimensions in mm)

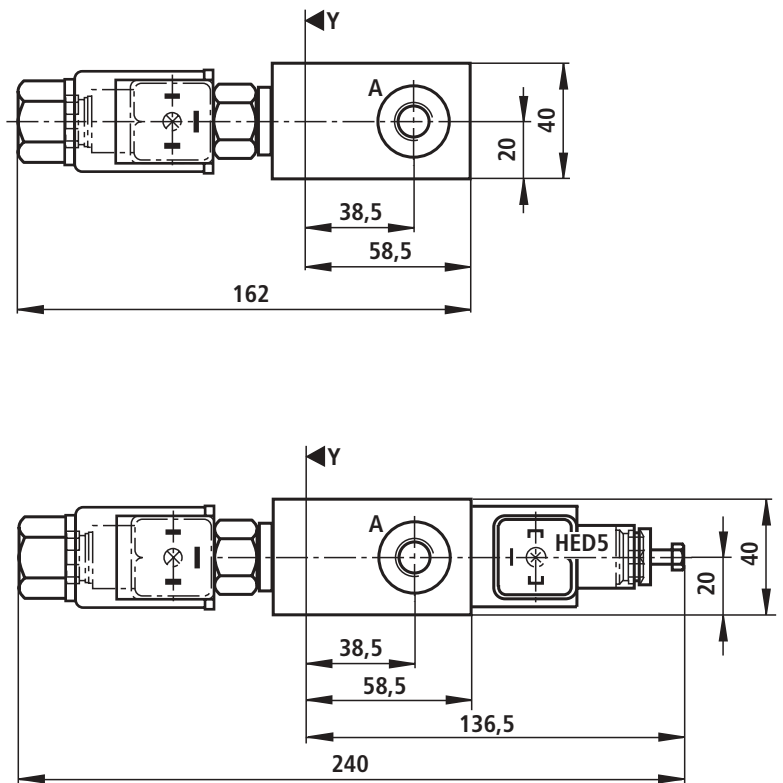
Module SPA2, type „SPA2“

Symbol



Unit dimensions

Dim. Z = 45 mm



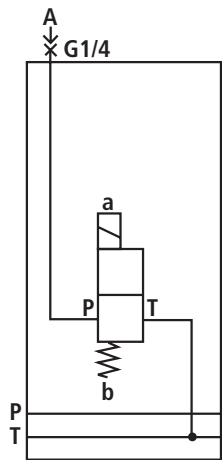
Material No.	Component description	Type code	
	Module SPA2	IH15EA-1X/SPA2- <input type="text" value="4"/> <input type="text" value="10"/> / <input type="text" value="12"/> <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>	
R904101492		IH15EA-1X/SPA2-N/G24/350/V	
R900242502		IH15EA-1X/SPA2-N/G24/500/V	
R904101491		IH15EA-1X/SPA2-NHED5/100G24/V	
R900992210		IH15EA-1X/SPA2-P/G24/350/V	
R901063412		IH15EA-1X/SPA2-P/G24/500/V	
R900991537		IH15EA-1X/SPA2-PHED5/210G24/V	
<input type="text" value="4"/>	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="text" value="7"/>	Poppet valve pressure rating	$p_{max}$ $p_{max}$	= 350 bar = 500 bar = 350 <sup>1)</sup> = 500 <sup>1)</sup>
<input type="text" value="8"/>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="text" value="10"/>	Pressure switch	Without pressure switch HED 5 OP1X/...K14	= No code = HED 5
<input type="text" value="12"/>	Pressure switch pressure stage	Without pressure switch Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure	50 bar 100 bar 210 bar 350 bar 630 bar = No code = 50 = 100 = 210 = 350 = 630
<input type="text" value="26"/>	Seal	Seal material	FKM = V

<sup>1)</sup> Details are only required, when the module does not have any pressure switches fitted.

### Poppet valve module, type „S“ (nominal dimensions in mm)

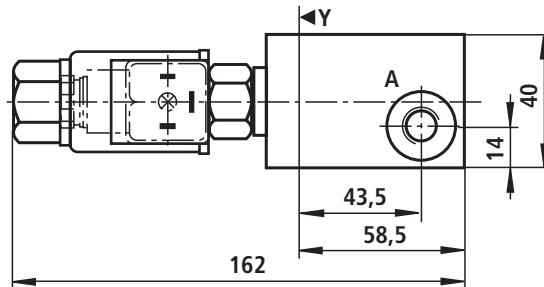
Module A – T, type „SAT2“

Symbol



Unit dimensions

Dim. Z = 45 mm



Material No.	Component description	Type code
	Module SAT2	IH15EA-1X/SAT2- <input type="text" value="4"/> <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R904100867		IH15EA-1X/SAT2-NG24/350/V
R901063391		IH15EA-1X/SAT2-NG24/500/V
R901065613		IH15EA-1X/SAT2-PG24/350/V
R901063388		IH15EA-1X/SAT2-PG24/500/V

<input type="text" value="4"/>	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="text" value="7"/>	Poppet valve pressure rating	$p_{max}$ $p_{max}$	= 350 bar = 500 bar = 350 = 500
<input type="text" value="8"/>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="text" value="26"/>	Seal	Seal material	FKM = V

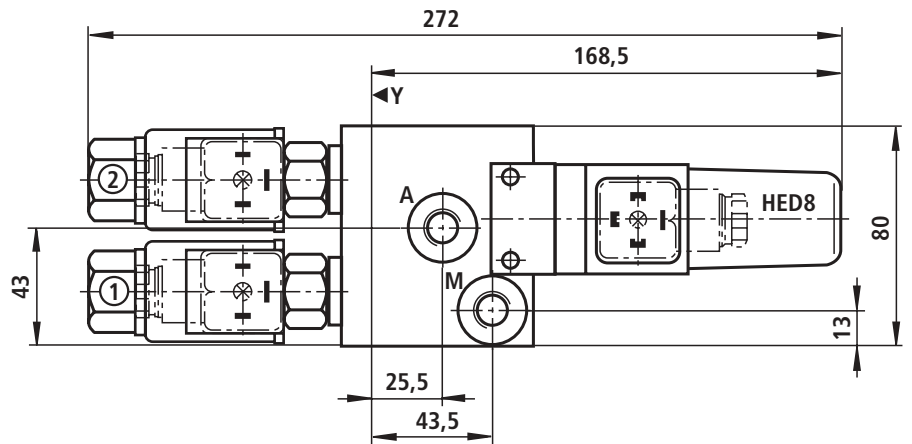
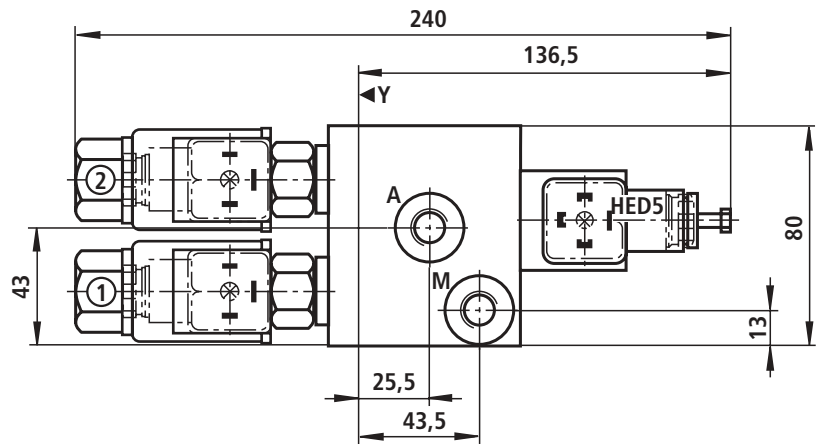
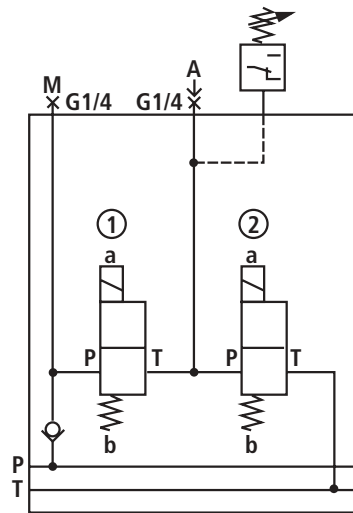
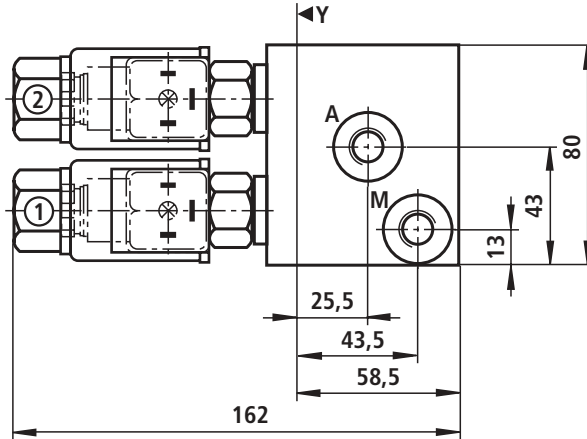
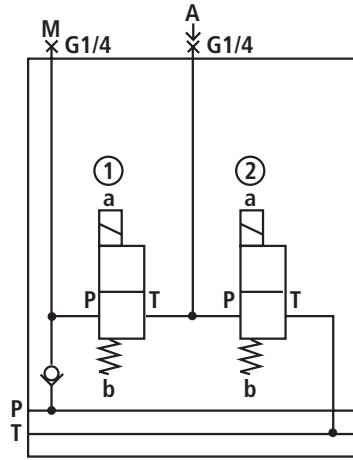
**Poppet valve module, type „S“ (nominal dimensions in mm)**

Module P – A – T, type „SPAT2“

Symbol

Unit dimensions

Dim. Z = 45 mm



## Poppet valve module, type „S“ (nominal dimensions in mm)

Material No.	Component description	Type code
	Module SPAT2	IH15EA-1X/SPAT2- <div style="display: flex; justify-content: space-around; font-size: small;"> <span>4</span> <span>11</span> <span>12</span> <span>14</span> <span>8</span> <span>7</span> <span>26</span> </div> <div style="display: flex; justify-content: space-around; font-size: x-small; border: 1px solid black; width: 100%; height: 15px; margin-top: 5px;"></div>
R900334895		IH15EA-1X/SPAT2-N/OG24/350/V
R900242500		IH15EA-1X/SPAT2-N/OG24/500/V
R900708437		IH15EA-1X/SPAT2-NHED5/210/MG24/V
R900992131		IH15EA-1X/SPAT2-NHED5/210/OG24/V
R900991528		IH15EA-1X/SPAT2-PHED5/210/OG24/V
R901100022		IH15EA-1X/SPAT2-PHED5/210/MG24/V

4	<input type="checkbox"/> 2/2 poppet valve designation	Normally closed Normally open	= N = P
7	<input type="checkbox"/> Poppet valve pressure rating	$p_{\max}$ $p_{\max}$	= 350 bar = 500 bar = 350 <sup>1)</sup> = 500 <sup>1)</sup>
8	<input type="checkbox"/> Poppet valve solenoid voltage	Volt	24 V DC = G24
11	<input type="checkbox"/> Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15	= No code = HED5 = HED8
12	<input type="checkbox"/> Pressure switch pressure stage	Without pressure switch Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure	= No code = 50 = 100 = 200 <sup>2)</sup> = 210 <sup>3)</sup> = 350 = 630
14	<input type="checkbox"/> Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O
26	<input type="checkbox"/> Seal	Seal material	FKM = V

<sup>1)</sup> Details are only required, when the module does not have any pressure switches fitted.

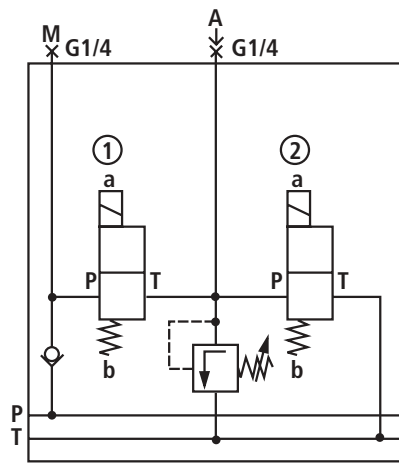
<sup>2)</sup> Only valid for HED 8

<sup>3)</sup> Only valid for HED 5

### Poppet valve module, type „S“ (nominal dimensions in mm)

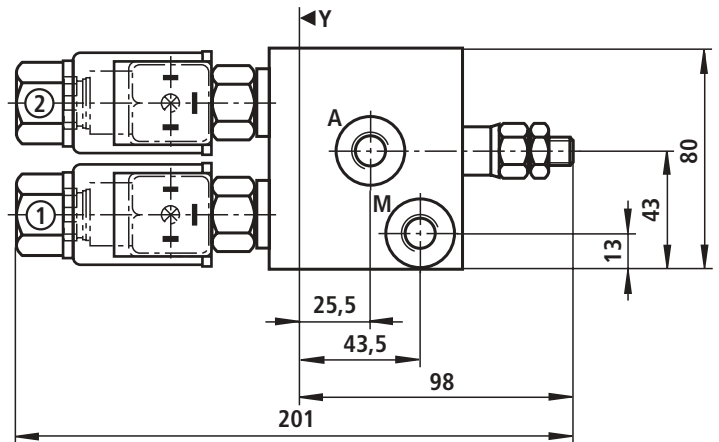
Module P – A – T with pressure relief valve, type „SPAT2DB“

Symbol



Unit dimensions

Dim. Z = 45 mm



Material No.	Component description	Type code
	Module SPAT2DB	IH15EA-1X/SPAT2DB- <input type="checkbox"/> 1 <input type="checkbox"/> 2 / <input type="checkbox"/> 14 <input type="checkbox"/> 4 <input type="checkbox"/> 8 / <input type="checkbox"/> 26
R900608552		IH15EA-1X/SPAT2DB-S 50/MPG24/V
R904100980		IH15EA-1X/SPAT2DB-S100/MNG24/V
R900992144		IH15EA-1X/SPAT2DB-S200/OPG24/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> 2	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500

Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive)  
Further pressure stages on request!

		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
--	--	--	--

**Characteristic curve** for the design tested pressure relief valve type: DBD 4../..E  
Design tested in accordance with the pressure component directive 97/23/EC

See page 79

<input type="checkbox"/> 4	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="checkbox"/> 8	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="checkbox"/> 14	Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

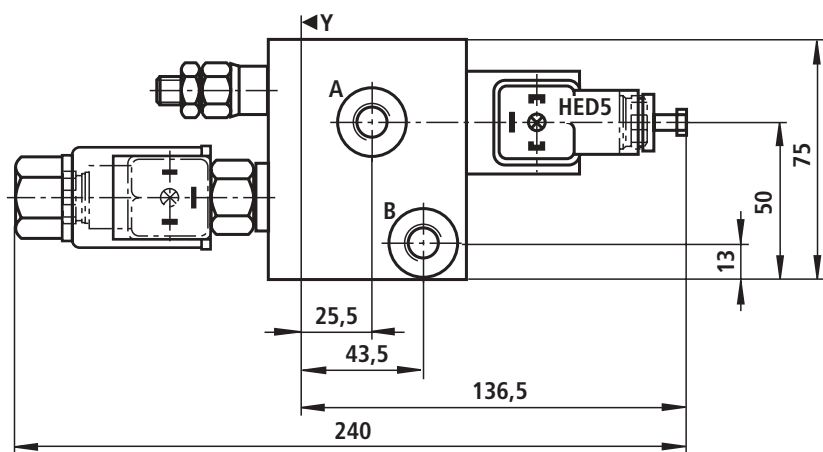
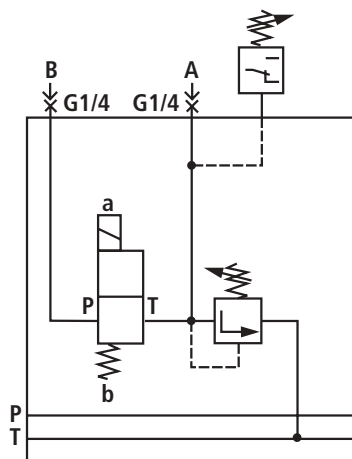
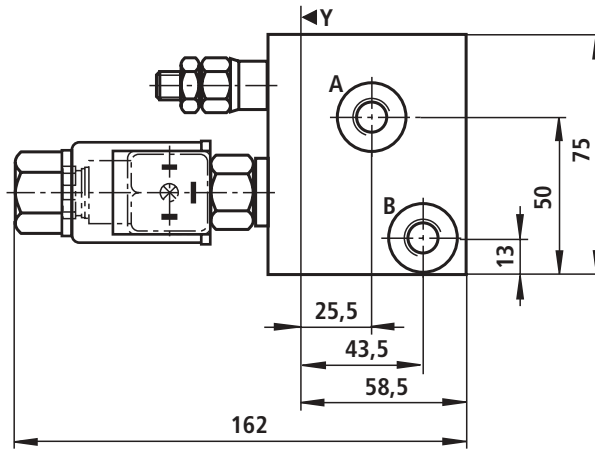
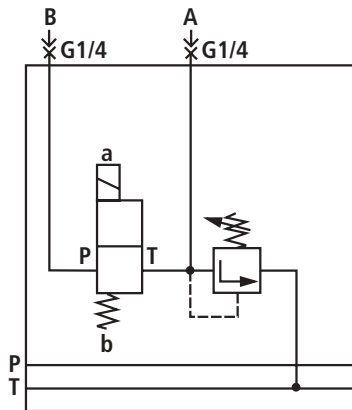
**Poppet valve module, type „S“ (nominal dimensions in mm)**

Module B – A – T with pressure relief valve, type „SBAT2DB“

Symbol

Unit dimensions

Dim. Z = 45 mm



## Poppet valve module, type „S“

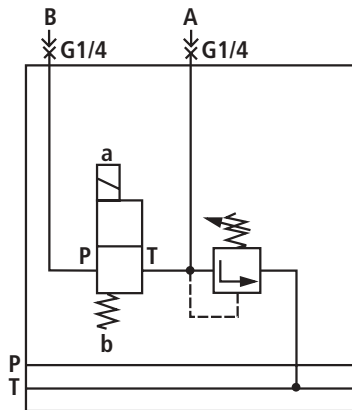
Material No.	Component description	Type code
	Module SBAT2DB	IH15EA-1X/SBAT2DB- <input type="checkbox"/> <sup>1</sup> <input type="checkbox"/> <sup>2</sup> / <input type="checkbox"/> <sup>4</sup> / <input type="checkbox"/> <sup>10</sup> <input type="checkbox"/> <sup>8</sup> / <input type="checkbox"/> <sup>26</sup>
R900717193		IH15EA-1X/SBAT2DB-S100/N/G24/V
R900992145		IH15EA-1X/SBAT2DB-S200/P/HED5G24/V

<input type="checkbox"/> <sup>1</sup>	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> <sup>2</sup>	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar 100 bar 200 bar 350 bar 500 bar = 50 = 100 = 200 = 350 = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar 250 bar 400 bar 500 bar = 210E = 250E = 400E = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> <sup>4</sup>	2/2 poppet valve designation	stromlos geschlossen stromlos offen	= N = P
<input type="checkbox"/> <sup>8</sup>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="checkbox"/> <sup>10</sup>	Pressure switch	Without pressure switch HED 5 OP1X/...K14	= No code = HED5
<input type="checkbox"/> <sup>26</sup>	Seal	Seal material	FKM = V

**Poppet valve module, type „S“ (nominal dimensions in mm)**

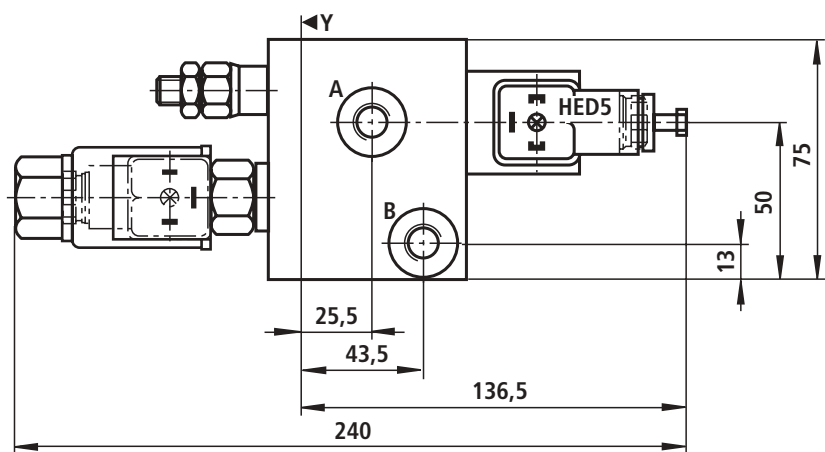
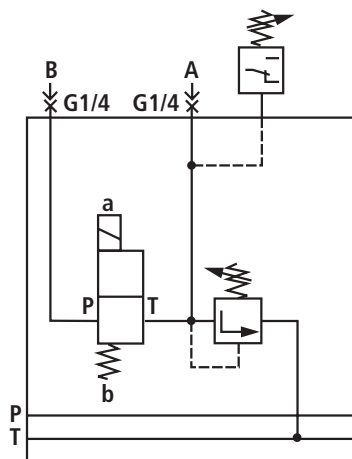
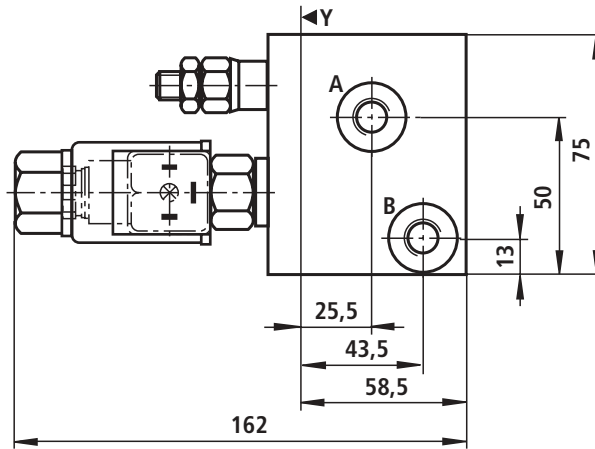
Module P - B - A - T with pressure relief valve, type „SPBAT2DB“

Symbol



Unit dimensions

Dim. Z = 45 mm



## Poppet valve module, type „S“

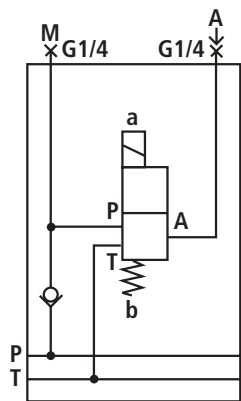
Material No.	Component description	Type code
	Module SPBAT2DB	IH15EA-1X/SPBAT2DB- <input type="checkbox"/> <sup>1</sup> <input type="checkbox"/> <sup>2</sup> / <input type="checkbox"/> <sup>4</sup> / <input type="checkbox"/> <sup>10</sup> <input type="checkbox"/> <sup>8</sup> / <input type="checkbox"/> <sup>26</sup>
R904100985		IH15EA-1X/SPBAT2DB-S100/N/G24/V
R901072232		IH15EA-1X/SPBAT2DB-S200/N/G24/V
R901072233		IH15EA-1X/SPBAT2DB-S350/N/G24/V
R904100172		IH15EA-1X/SPBAT2DB-S 50/N/HED5/G24/V

<input type="checkbox"/> <sup>1</sup>	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> <sup>2</sup>	Pressure relief valve pressure ratings	Pressure settable up to max. 50 bar = 50 Pressure settable up to max. 100 bar = 100 Pressure settable up to max. 200 bar = 200 Pressure settable up to max. 350 bar = 350 Pressure settable up to max. 500 bar = 500	
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
		Pressure settable up to max. 210 bar = 210E Pressure settable up to max. 250 bar = 250E Pressure settable up to max. 400 bar = 400E Pressure settable up to max. 500 bar = 500E	
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> <sup>4</sup>	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="checkbox"/> <sup>8</sup>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="checkbox"/> <sup>10</sup>	Pressure switch	Without pressure switch HED 5 OP1X/...K14	= No code = HED5
<input type="checkbox"/> <sup>26</sup>	Seal	Seal material	FKM = V

**Poppet valve module, type „S“ (nominal dimensions in mm)**

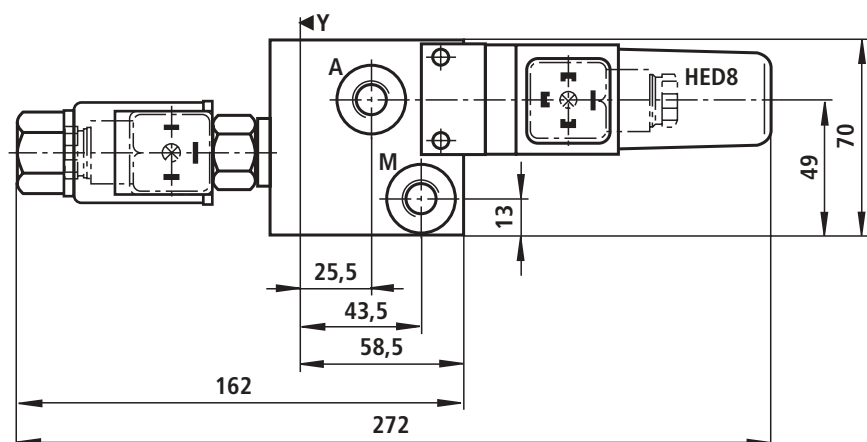
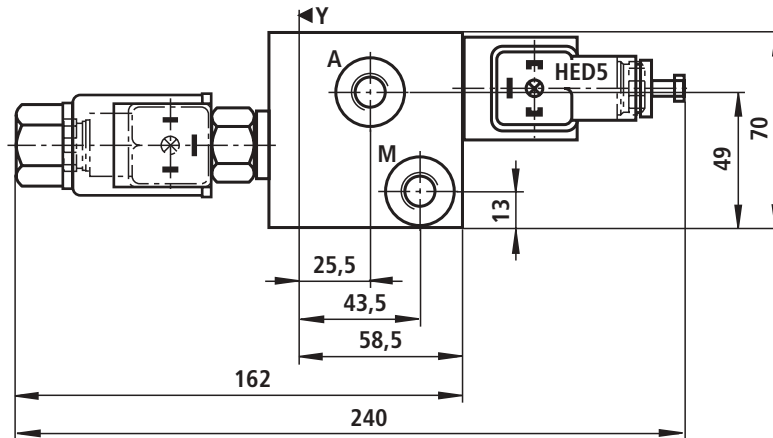
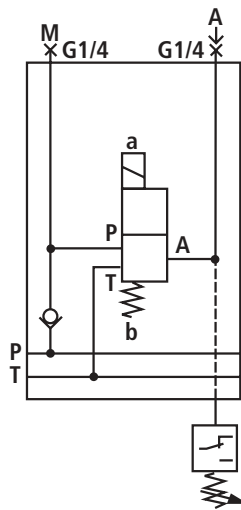
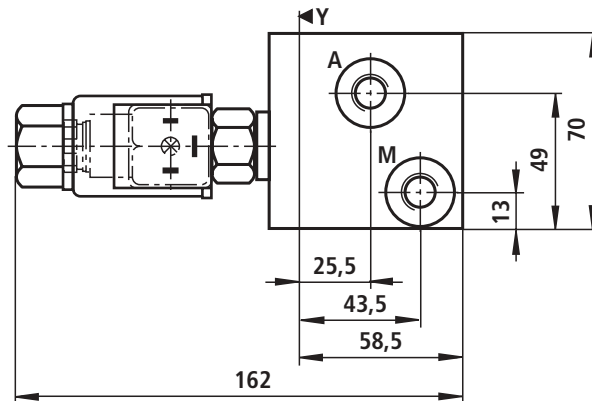
Module P – A, type „SPA3“

Symbol



Unit dimensions

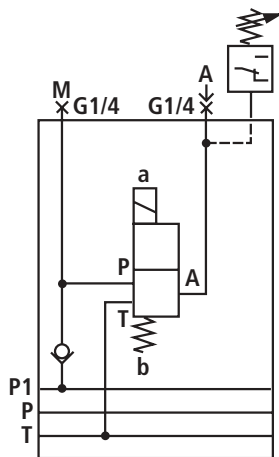
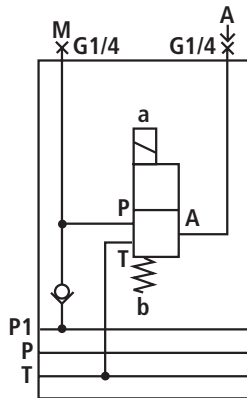
Dim. Z = 45 mm



## Poppet valve module, type „S“

Module P – A with P1 - port, type „SPA3P1“

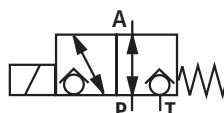
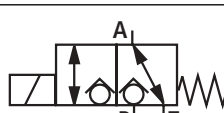
Symbol



## Poppet valve module, type „S“

Material No.	Component description	Type code
	Module SPA3	IH15EA-1X/SPA3- <div style="display: flex; justify-content: space-around; width: 100%;"> <span>5</span> <span>11</span> <span>12</span> <span>14</span> <span>8</span> <span>7</span> <span>26</span> </div> <div style="display: flex; justify-content: space-around; width: 100%; border: 1px solid black; height: 20px; margin-top: 5px;"></div>
R900993540		IH15EA-1X/SPA3-C/MG24/350/V
R904100943		IH15EA-1X/SPA3-CHED5/350/MG24/V
R900993541		IH15EA-1X/SPA3-U/MG24/350/V
R900719081		IH15EA-1X/SPA3-UHED5/350/MG24/V

Material No.	Component description	Type code
	Module SPA3P1	IH15EA-1X/SPA3P1- <div style="display: flex; justify-content: space-around; width: 100%;"> <span>5</span> <span>11</span> <span>12</span> <span>14</span> <span>8</span> <span>7</span> <span>26</span> </div> <div style="display: flex; justify-content: space-around; width: 100%; border: 1px solid black; height: 20px; margin-top: 5px;"></div>
R904101002		IH15EA-1X/SPA3P1-C/MG24/350/V
R904100789		IH15EA-1X/SPA3P1-CHED5/100/OG24/V
R901100035		IH15EA-1X/SPA3P1-U/MG24/350/V
R904100879		IH15EA-1X/SPA3P1-UHED5/100/OG24/V

<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block; margin-right: 5px;"></div> 5 3/2 poppet valve designation			= U
			= C
<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block; margin-right: 5px;"></div> 7 Poppet valve pressure rating	$p_{max}$ $p_{max}$	= 350 bar = 500 bar	= 350 <sup>1)</sup> = 500 <sup>1)</sup>
<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block; margin-right: 5px;"></div> 8 Poppet valve solenoid voltage	Volt	24 V DC	= G24
<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block; margin-right: 5px;"></div> 11 Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15		= No code = HED 5 = HED 8
<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block; margin-right: 5px;"></div> 12 Pressure switch pressure stage	Without pressure switch Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure	50 bar 100 bar 200 bar 210 bar 350 bar 630 bar	= No code = 50 = 100 = 200 <sup>2)</sup> = 210 <sup>3)</sup> = 350 = 630
<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block; margin-right: 5px;"></div> 14 Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring		= D = M = O
<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block; margin-right: 5px;"></div> 26 Seal	Seal material	FKM	= V

<sup>1)</sup> Details are only required, when the module does not have any pressure switches fitted.

<sup>2)</sup> Only valid for HED 8

<sup>3)</sup> Only valid for HED 5

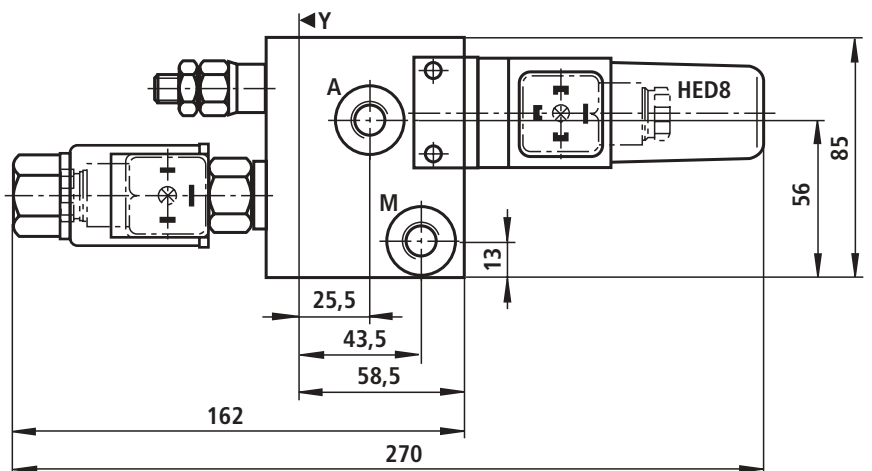
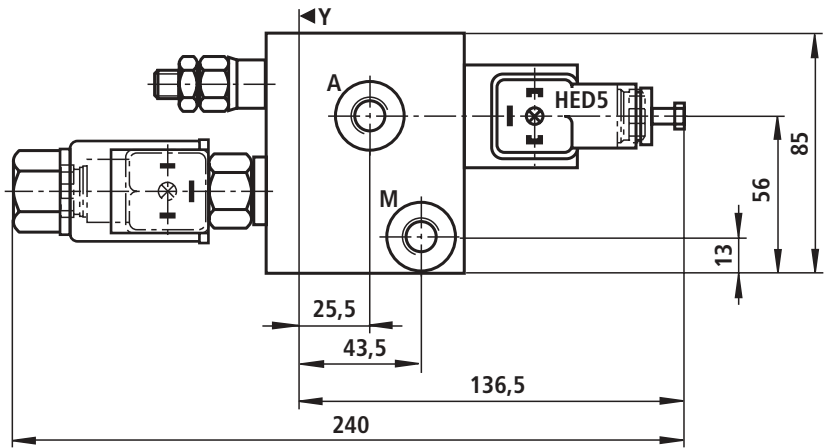
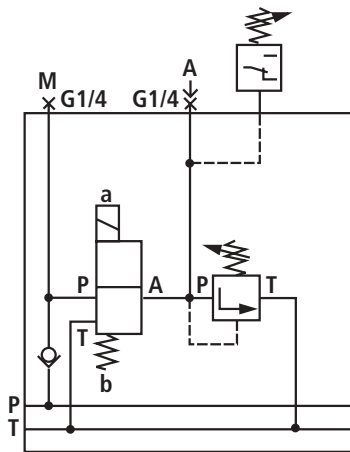
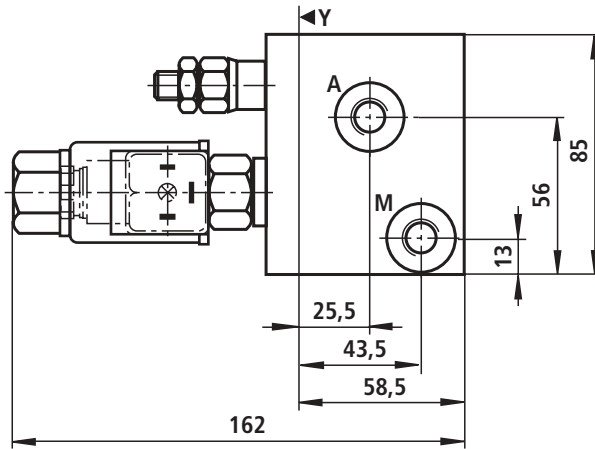
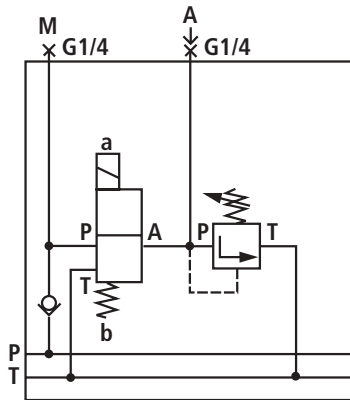
**Poppet valve module, type „S“ (nominal dimensions in mm)**

Module P – A – T with pressure relief valve, type „SPAT3DB“

Symbol

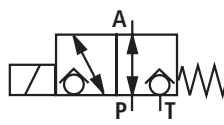
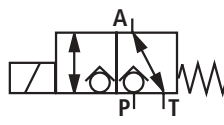
Unit dimensions

Dim. Z = 45 mm



## Poppet valve module, type „S“

Material No.	Component description	Type code
	Module SPAT3DB	IH15EA-1X/SPAT3DB- <div style="display: flex; justify-content: space-around; font-size: small;"> <span>1</span> <span>2</span> <span>5</span> <span>11</span> / <span>14</span> <span>8</span> / <span>26</span> </div> <div style="display: flex; justify-content: space-around; border: 1px solid black; width: 100%; height: 20px; margin-top: 5px;"></div>
R904101659		IH15EA-1X/SPAT3DB-S200CHED5/DG24/V
R901063501		IH15EA-1X/SPAT3DB-S200CHED5/MG24/V
R901100755		IH15EA-1X/SPAT3DB-S200CHED5/OG24/V

1	<input type="checkbox"/> Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob		= S = H
2	<input type="checkbox"/> Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar 100 bar 200 bar 350 bar 500 bar	= 50 = 100 = 200 = 350 = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stages on request!				
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar 250 bar 400 bar 500 bar	= 210E = 250E = 400E = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC				See page 79
5	<input type="checkbox"/> 3/2 poppet valve designation			= U
				= C
8	<input type="checkbox"/> Poppet valve solenoid voltage	Volt	24 V DC	= G24
11	<input type="checkbox"/> Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15		= No code = HED 5 = HED 8
14	<input type="checkbox"/> Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring		= D = M = O
26	<input type="checkbox"/> Seal	Seal material	FKM	= V

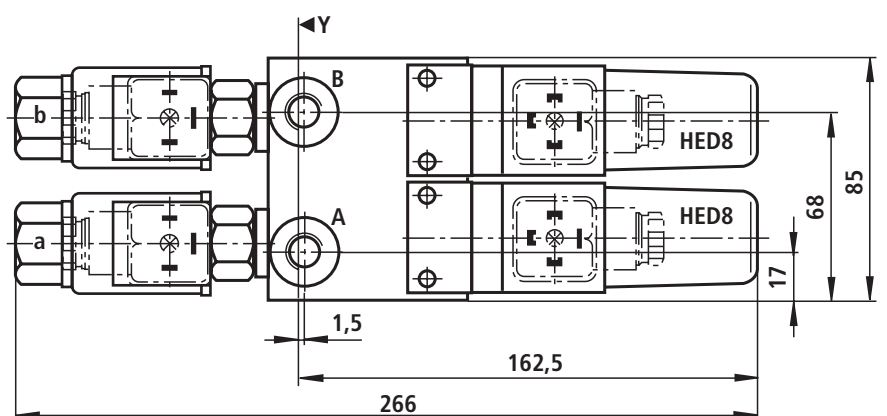
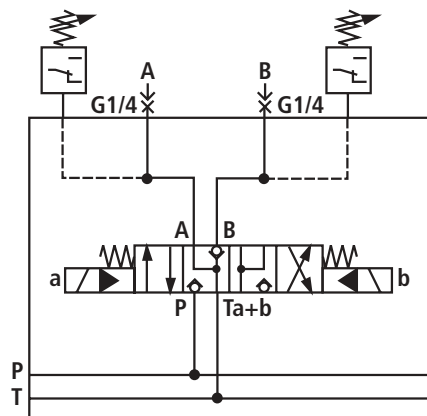
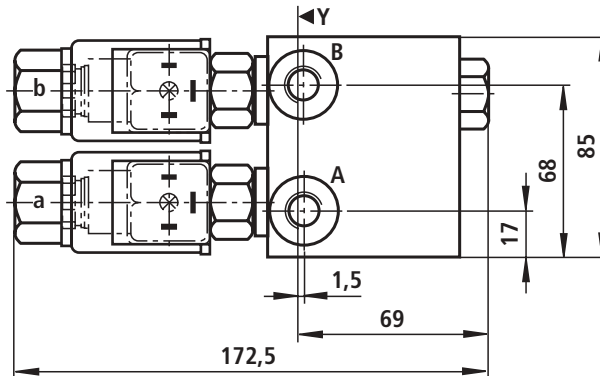
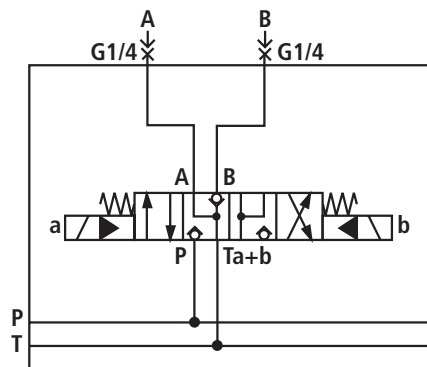
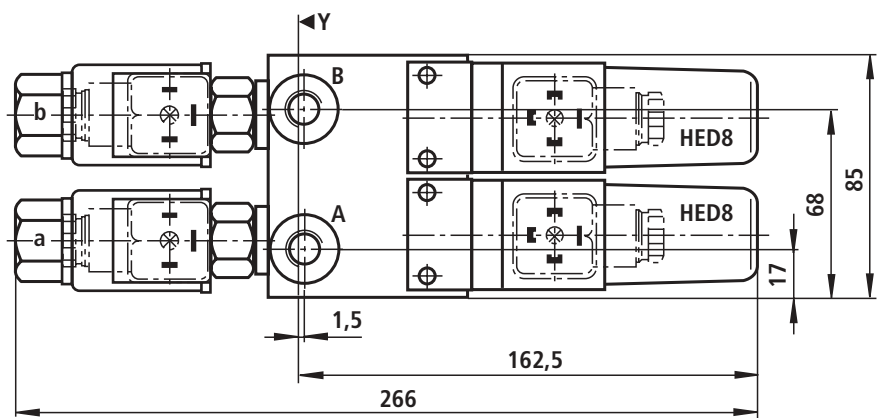
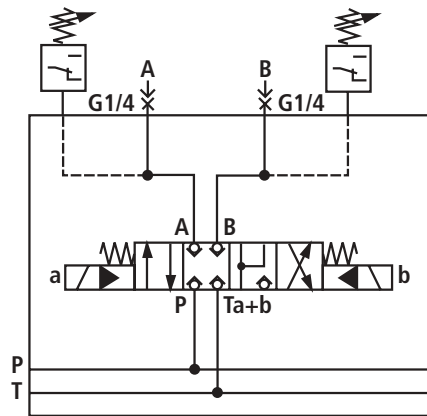
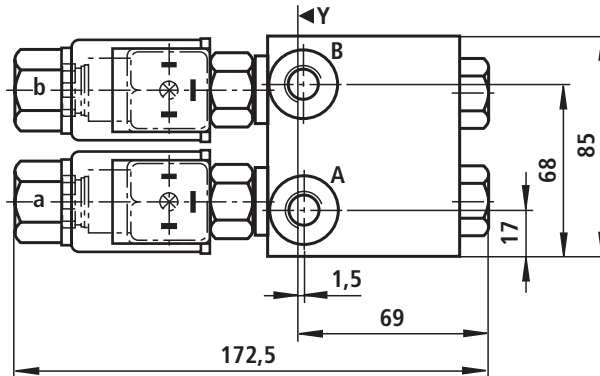
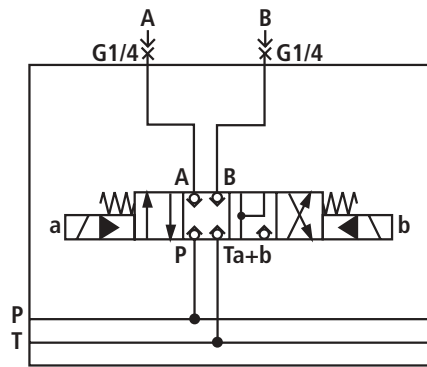
### Poppet valve module, type „S“ (nominal dimensions in mm)

Module AB, type „SAB4“

Symbol

Unit dimensions

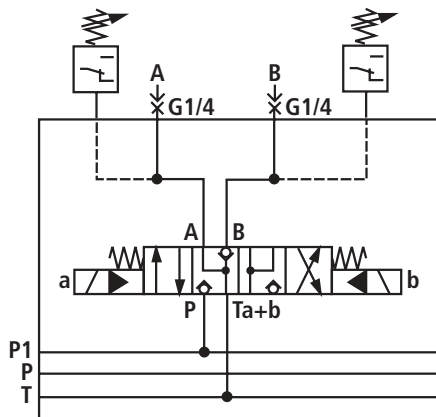
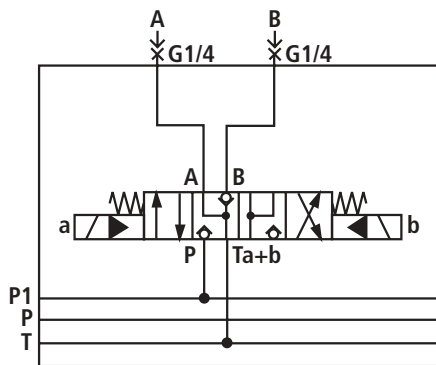
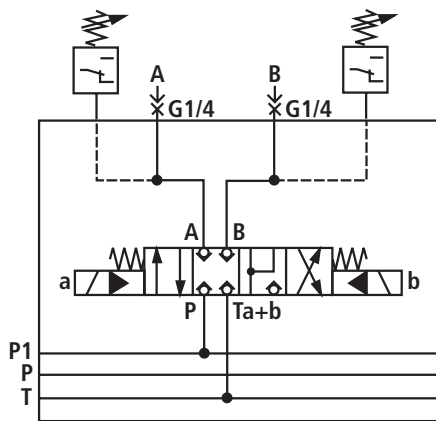
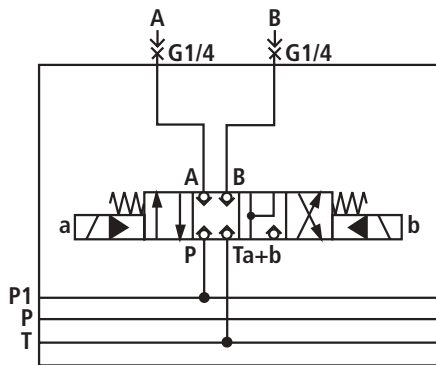
Dim. Z = 70 mm



# Poppet valve module, type „S“

Module AB with P1 - port, type „SAB4P1“

Symbol



### Poppet valve module, type „S“

Material No.	Component description	Type code
	Module SAB4	IH15EA-1X/SAB4- <input type="text" value="6"/> <input type="text" value="13"/> / <input type="text" value="12"/> / <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R900717196		IH15EA-1X/SAB4-KA/350/G24/V
R904100708		IH15EA-1X/SAB4-KAB/200/G24/V
R904101412		IH15EA-1X/SAB4-LG24/500/V
R901102715		IH15EA-1X/SAB4-LAB/200/G24/V

Material No.	Component description	Type code
	Module SAB4 with P1 - port	IH15EA-1X/SAB4P1- <input type="text" value="6"/> <input type="text" value="13"/> / <input type="text" value="12"/> / <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R900718647		IH15EA-1X/SAB4P1-KG24/350/V
R901102732		IH15EA-1X/SAB4P1-KAB/200/G24/V
R901102733		IH15EA-1X/SAB4P1-LG24/500/V
R901102734		IH15EA-1X/SAB4P1-LAB/200/G24/V

<input type="text" value="6"/> 4/4 poppet valve designation			= K
			= L
<input type="text" value="7"/> Poppet valve pressure rating	$p_{max}$ $p_{max}$	= 350 bar = 500 bar	= 350 <sup>1)</sup> = 500 <sup>1)</sup>
<input type="text" value="8"/> Poppet valve solenoid voltage	Volt	24 V DC	= G24
<input type="text" value="12"/> Pressure switch pressure stage	Without pressure switch		= No code
	Max. settable pressure	50 bar	= 50
	Max. settable pressure	100 bar	= 100
	Max. settable pressure	200 bar	= 200 <sup>2)</sup>
	Max. settable pressure	210 bar	= 210 <sup>3)</sup>
	Max. settable pressure	350 bar	= 350
<input type="text" value="13"/> Pressure switch in port	Without pressure switch		= No code
	A		= A
	B		= B
	A and B		= AB
<input type="text" value="26"/> Seal	Seal material	FKM	= V

<sup>1)</sup> Details are only required when the module does not have any pressure switches fitted.

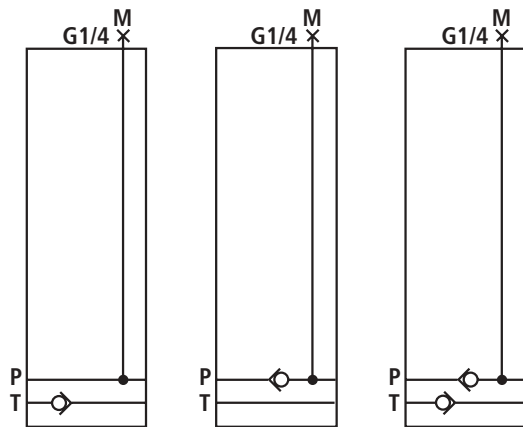
<sup>2)</sup> Only valid for HED 8

<sup>3)</sup> Only valid for HED 5

### Poppet valve module, type „S“ (nominal dimensions in mm)

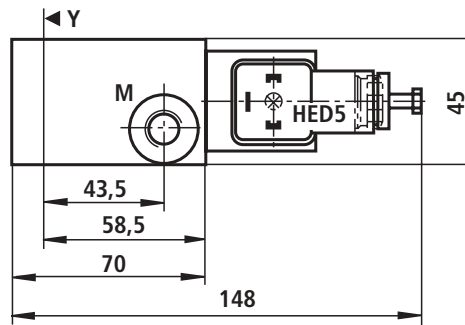
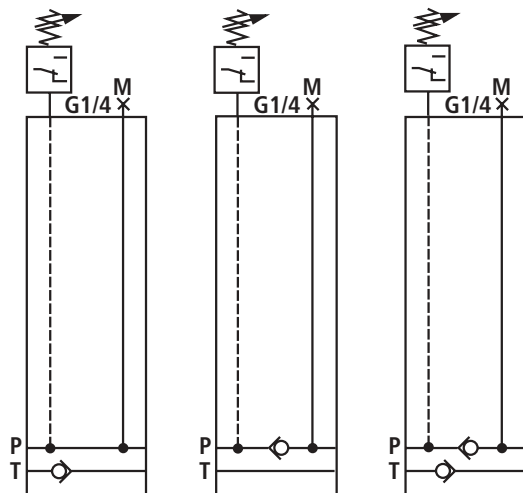
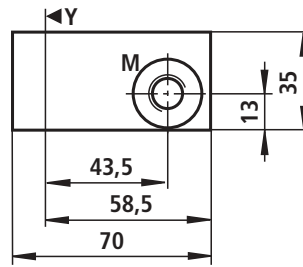
Module with check valve, type „SR“

Symbol



Unit dimensions

Dim. Z = 45 mm



## Poppet valve module, type „S“

Material No.	Component description	Type code
	Module with check valve	IH15EA-1X/SR- <input type="checkbox"/> <sup>21</sup> / <input type="checkbox"/> <sup>10</sup> / <input type="checkbox"/> <sup>12</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>15</sup> / <input type="checkbox"/> <sup>26</sup>
R904100056		IH15EA-1X/SR-PT/O/V
R901102735		IH15EA-1X/SR-PT/M/V
R901093516		IH15EA-1X/SR-P/M/V
R900719268		IH15EA-1X/SR-P/HED5/210/O/V
R900618480		IH15EA-1X/SR-P/O/V
R901091505		IH15EA-1X/SR-T/HED5/630/O/V
R904101786		IH15EA-1X/SR-T/M/V
R904100046		IH15EA-1X/SR-T/O/V

<input type="checkbox"/> <sup>10</sup> Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15		= No code = HED 5 = HED 8
<input type="checkbox"/> <sup>12</sup> Pressure switch pressure stage	Without pressure switch Max. settable pressure 50 bar Max. settable pressure 100 bar Max. settable pressure 200 bar Max. settable pressure 210 bar Max. settable pressure 350 bar Max. settable pressure 630 bar		= No code = 50 = 100 = 200 <sup>2)</sup> = 210 <sup>3)</sup> = 350 = 630
<input type="checkbox"/> <sup>14</sup> Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring		= D = M = O
<input type="checkbox"/> <sup>15</sup> Max. pressure range of the pressure gauge	Without pressure monitoring Display range 60 bar Display range 100 bar Display range 250 bar Display range 400 bar Display range 600 bar		= No code = 60 <sup>1)</sup> = 100 <sup>1)</sup> = 250 <sup>1)</sup> = 400 <sup>1)</sup> = 600 <sup>1)</sup>
<input type="checkbox"/> <sup>21</sup> Check valve	In port P In port T In ports P and T		= P = T = PT
<input type="checkbox"/> <sup>26</sup> Seal	Seal material	FKM	= V

<sup>1)</sup> Details are only required when the module does not have any pressure switches fitted.

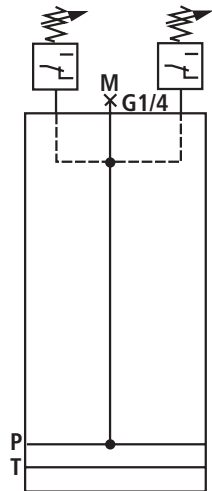
<sup>2)</sup> Only valid for HED 8

<sup>3)</sup> Only valid for HED 5

### Poppet valve module, type „S“ (nominal dimensions in mm)

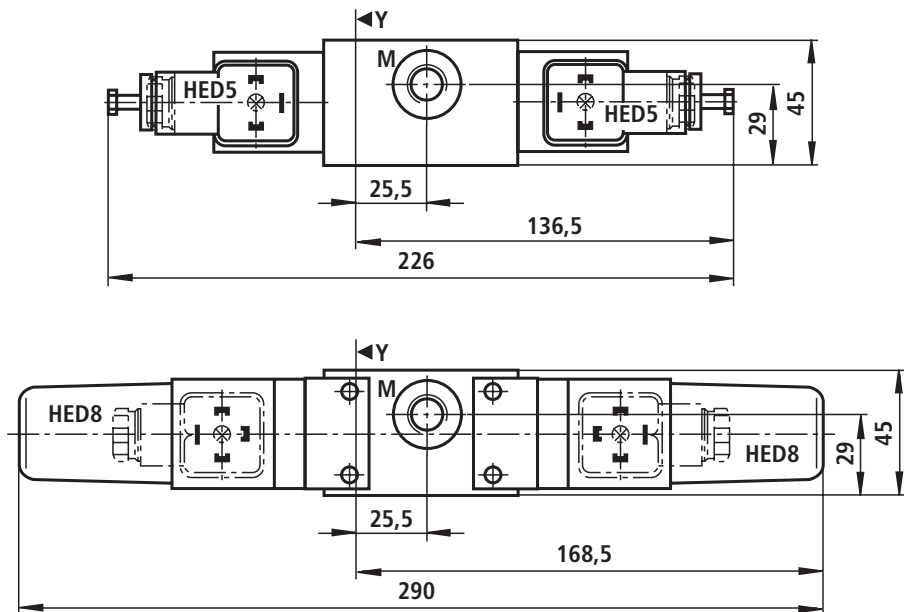
Module with pressure switch, type „SD“

Symbol



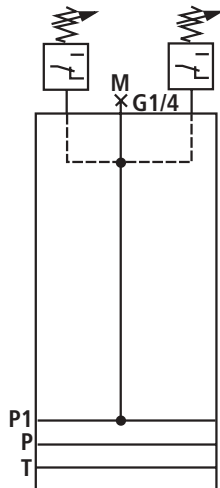
Unit dimensions

Dim. Z = 45 mm



Module with pressure switch, type „SDP1“

Symbol



## Poppet valve module, type „S“

Material No.	Component description	Type code
	Modul with pressure switch	IH15MA-1X/SD- <input type="checkbox"/> <sup>9</sup> <input type="checkbox"/> <sup>11</sup> / <input type="checkbox"/> <sup>12</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>15</sup> / <input type="checkbox"/> <sup>26</sup>
R900335708		IH15MA-1X/SD-0/D100/V
R904100532		IH15MA-1X/SD-1HED5/100/D/V
R900263548		IH15MA-1X/SD-1HED5/210/D/V
R904100661		IH15MA-1X/SD-1HED5/210/M/V
R900335050		IH15MA-1X/SD-1HED5/210/O/V
R904100082		IH15MA-1X/SD-1HED8/200/D/V
R900338641		IH15MA-1X/SD-2HED5/210/D/V
R900992150		IH15MA-1X/SD-2HED5/210/O/V
R904100536		IH15MA-1X/SD-2HED8/200/O/V

Material No.	Component description	Type code
	Module with pressure switch	IH15MA-1X/SDP1- <input type="checkbox"/> <sup>9</sup> <input type="checkbox"/> <sup>11</sup> / <input type="checkbox"/> <sup>12</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>15</sup> / <input type="checkbox"/> <sup>26</sup>
R901103711		IH15MA-1X/SDP1-1HED5/100/D/V

<input type="checkbox"/> <sup>9</sup>	No. of pressure switches	Without pressure switch One pressure switch Two pressure switches	= 0 = 1 = 2
<input type="checkbox"/> <sup>11</sup>	Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15	= No code = HED 5 = HED 8
<input type="checkbox"/> <sup>12</sup>	Pressure switch pressure stage	Without pressure switch Max. settable pressure 50 bar Max. settable pressure 100 bar Max. settable pressure 200 bar Max. settable pressure 210 bar Max. settable pressure 350 bar Max. settable pressure 630 bar	= No code = 50 = 100 = 200 <sup>2)</sup> = 210 <sup>3)</sup> = 350 = 630
<input type="checkbox"/> <sup>14</sup>	Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> <sup>15</sup>	Max. pressure range of the pressure gauge	Without pressure monitoring Display range 60 bar Display range 100 bar Display range 250 bar Display range 400 bar Display range 600 bar	= No code = 60 <sup>1)</sup> = 100 <sup>1)</sup> = 250 <sup>1)</sup> = 400 <sup>1)</sup> = 600 <sup>1)</sup>
<input type="checkbox"/> <sup>26</sup>	Seal	Seal material	FKM = V

<sup>1)</sup> Details are only required when the modul does not have any pressure switches fitted.

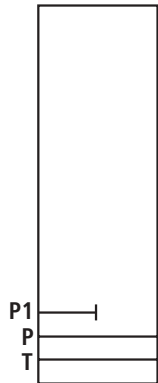
<sup>2)</sup> Only valid for HED 8

<sup>3)</sup> Only valid for HED 5

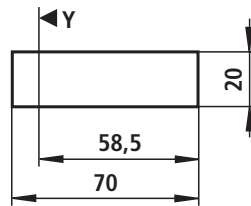
**Poppet valve module, type „S“ (nominal dimensions in mm)**

Sandwich module with P1 - port blocked, type „SZP1“

Symbol



Unit dimensions



Dim. Z = 45 mm

Material No.	Component description	Type code
	Sandwich modul with P1 - port blocked	IH15MA-1X/SZP1- <sup>26</sup> <input type="text"/>
R901103710		IH15MA-1X/SZP1-V

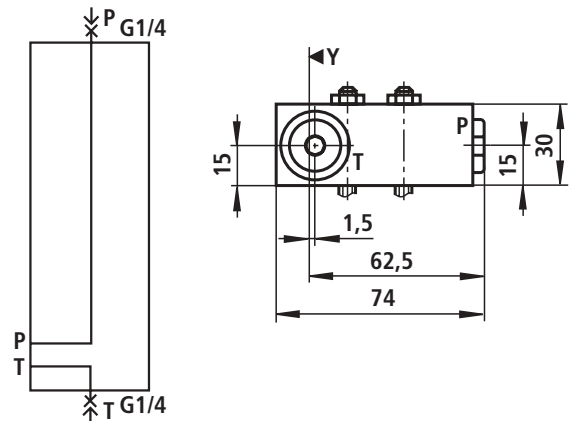
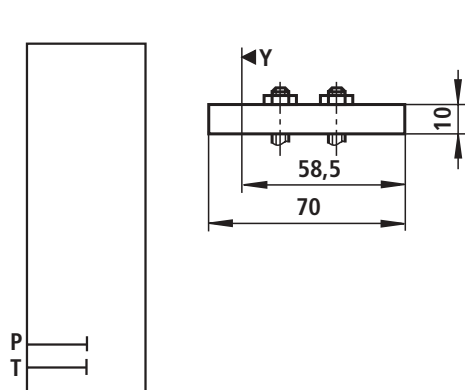
<sup>26</sup> <input type="text"/> Seal	Seal material	FKM	= V
---	---------------	-----	-----

### Poppet valve module, type „S“ (Nennmaße in mm)

#### End module, type „WSE“

#### With ports P and T, on the sides

Symbol      Unit dimensions      Dim. Z = 45 mm      Symbol      Unit dimensions      Dim. Z = 45 mm

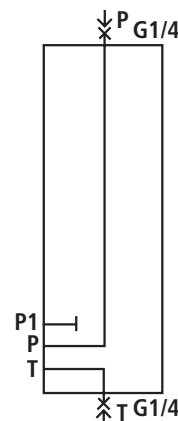


#### End module with P1 - port, type „WSEP1“

#### With ports P and T, on the sides

Symbol

Symbol



Material No.	Component description	Type code
	End module	IH15MA-1X/WSE- <input type="text" value="22"/> / <input type="text" value="26"/>
R900334850		IH15MA-1X/WSE-PT/V
R900992158		IH15MA-1X/WSE-V

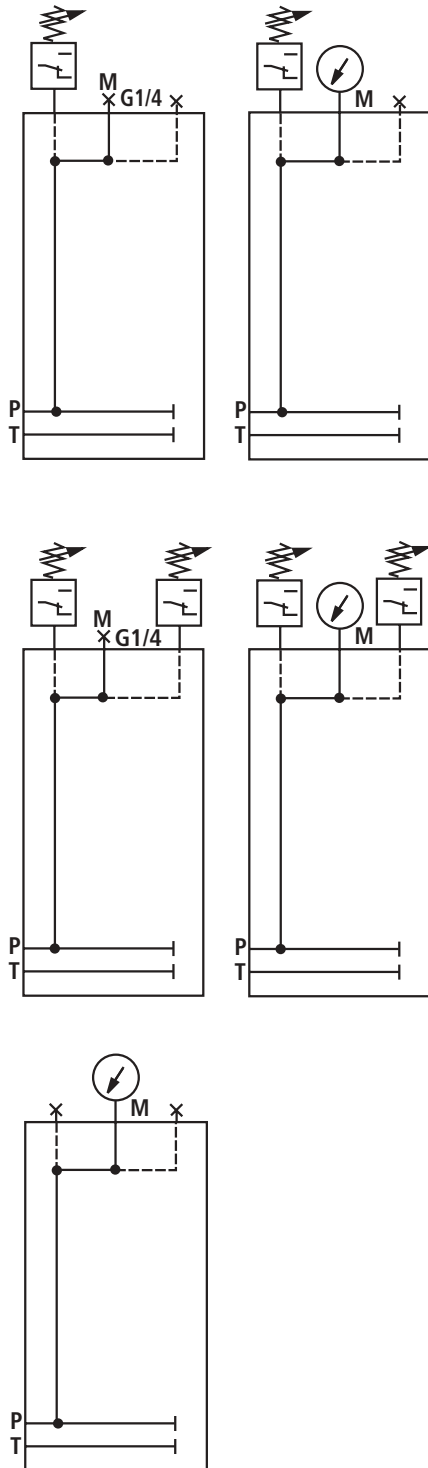
Material No.	Component description	Type code
	End module with P1 - port	IH15MA-1X/WSEP1- <input type="text" value="22"/> / <input type="text" value="26"/>
R904101255		IH15MA-1X/WSEP1-V

<input type="text" value="22"/>	Ports	Without ports P and T:	G 1/4	= No code = PT
<input type="text" value="26"/>	Seal	Seal material	FKM	= V

**Poppet valve module, type „S“ (nominal dimensions in mm)**

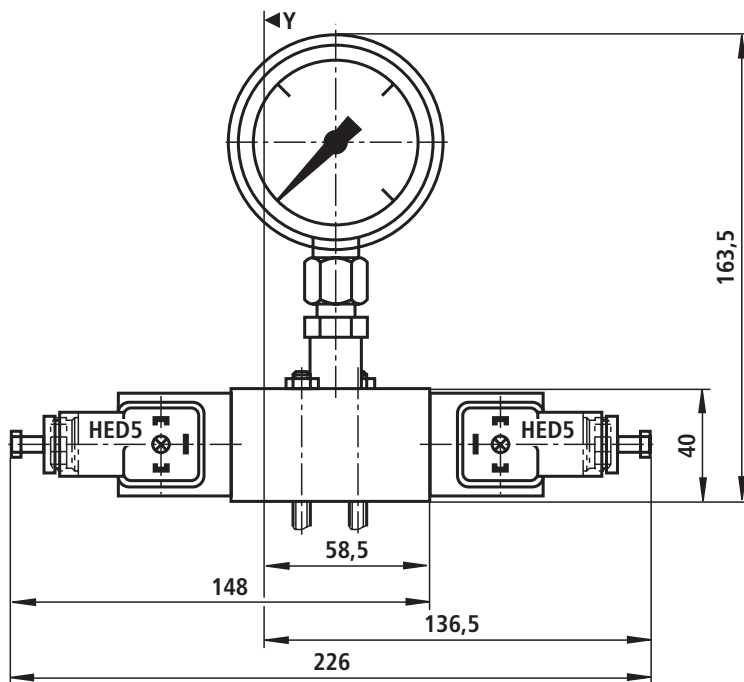
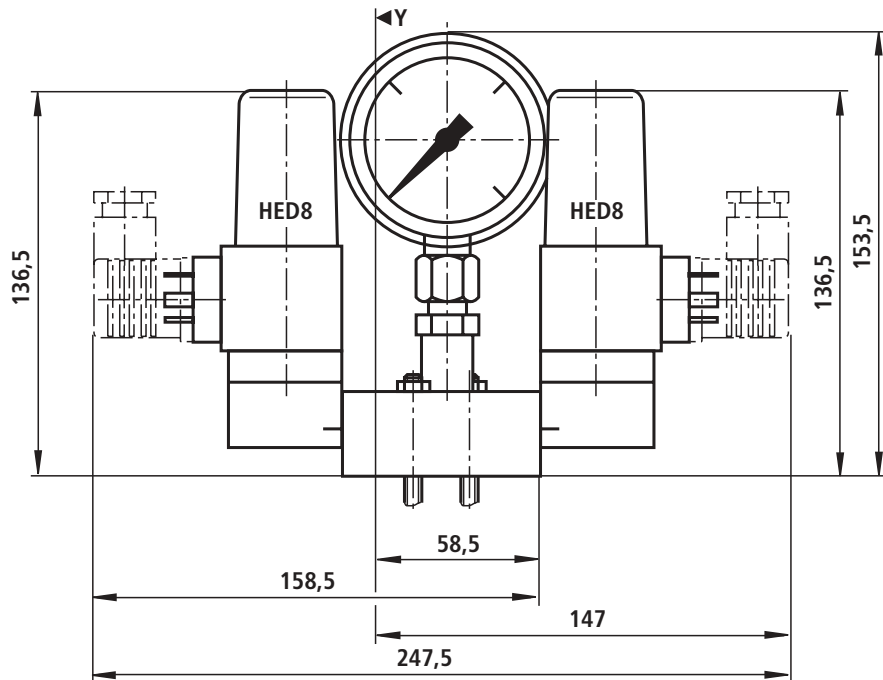
End module with pressure switch, type „WSED“

Symbol



Unit dimensions

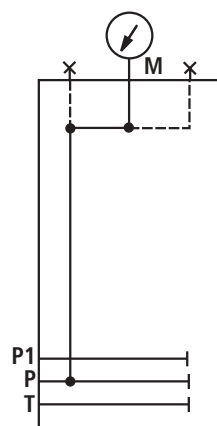
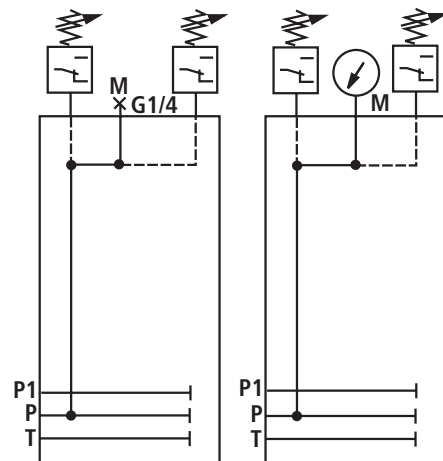
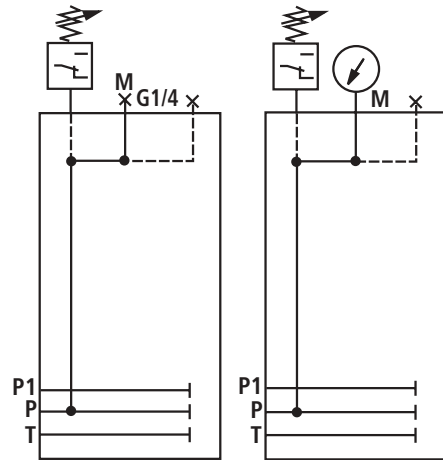
Dim. Z = 45 mm



## Poppet valve module, type „S“

End module with pressure switch and P1 - port, type „WSEDP1“

Symbol



## Poppet valve module, type „S“

Material No.	Component description	Type code
	End module with pressure switch	IH15MA-1X/WSED- <input type="checkbox"/> <sup>9</sup> <input type="checkbox"/> <sup>11</sup> / <input type="checkbox"/> <sup>12</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>15</sup> / <input type="checkbox"/> <sup>26</sup>
R900260936		IH15MA-1X/WSED-0/D100/V
R900991530		IH15MA-1X/WSED-0/D250/V
R900260993		IH15MA-1X/WSED-0/D400/V
R904100142		IH15MA-1X/WSED-0/D600/V
R900334886		IH15MA-1X/WSED-1HED5/350/D/V
R904100035		IH15MA-1X/WSED-1HED5/350/O/V
R900701320		IH15MA-1X/WSED-1HED8/350/D/V
R900703207		IH15MA-1X/WSED-1HED8/350/O/V
R900706818		IH15MA-1X/WSED-2HED5/350/D/V
R900702052		IH15MA-1X/WSED-2HED8/350/D/V

Material No.	Component description	Type code
	End module with pressure switch and P1 - port	IH15MA-1X/WSEDP1- <input type="checkbox"/> <sup>9</sup> <input type="checkbox"/> <sup>11</sup> / <input type="checkbox"/> <sup>12</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>15</sup> / <input type="checkbox"/> <sup>26</sup>
R904100559		IH15MA-1X/WSEDP1-0/D/400/V
R904100786		IH15MA-1X/WSEDP1-2HED5/210/D/V

<input type="checkbox"/> <sup>9</sup> No. of pressure switches	Without pressure switch One pressure switch Two pressure switches	= 0 = 1 = 2	
<input type="checkbox"/> <sup>11</sup> Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15	= No code = HED 5 = HED 8	
<input type="checkbox"/> <sup>12</sup> Pressure switch pressure stage	Without pressure switch Display range Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure	50 bar 100 bar 200 bar 210 bar 350 bar 630 bar	= No code = 50 = 100 = 200 <sup>2)</sup> = 210 <sup>3)</sup> = 350 = 630
<input type="checkbox"/> <sup>14</sup> Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O	
<input type="checkbox"/> <sup>15</sup> Max. pressure range of the pressure	Without pressure monitoring Display range Display range Display range Display range Display range	60 bar 100 bar 250 bar 400 bar 600 bar	= No code = 60 <sup>1)</sup> = 100 <sup>1)</sup> = 250 <sup>1)</sup> = 400 <sup>1)</sup> = 600 <sup>1)</sup>
<input type="checkbox"/> <sup>26</sup> Seal	Seal material	FKM = V	

<sup>1)</sup> Details are only required with the modul does not have any pressure switches fitted.

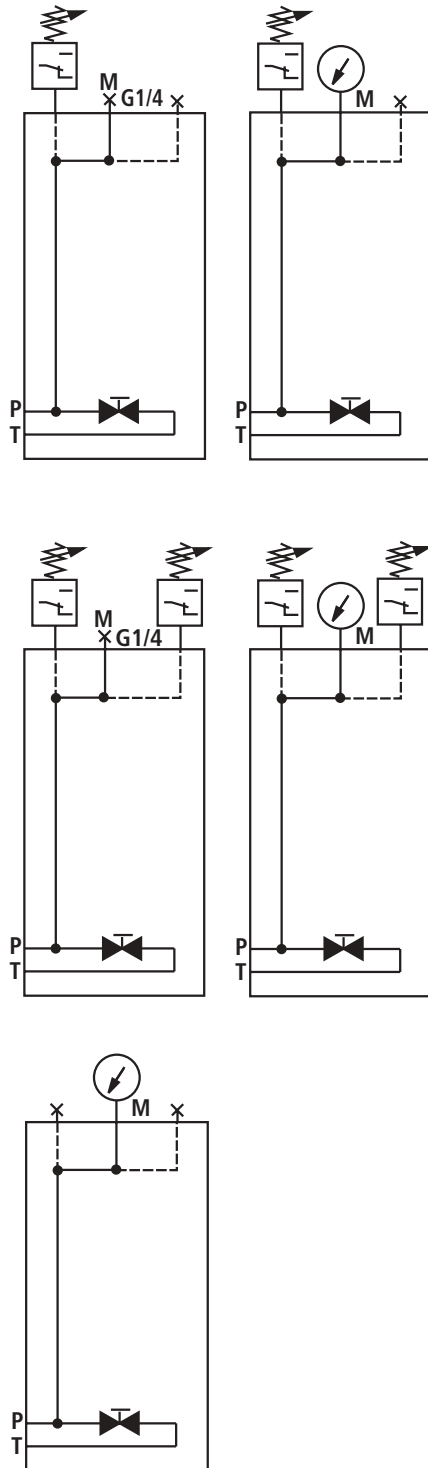
<sup>2)</sup> Only valid for HED 8

<sup>3)</sup> Only valid for HED 5

**Poppet valve module, type „S“ (nominal dimensions in mm)**

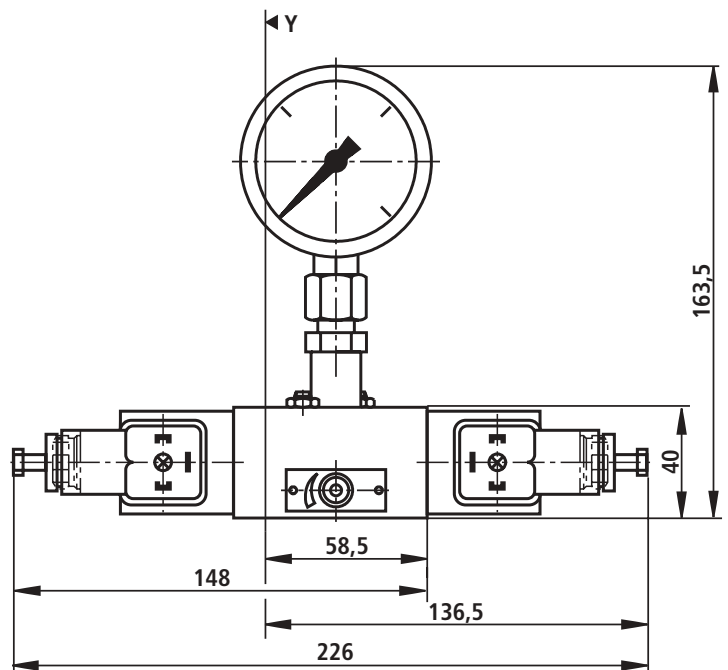
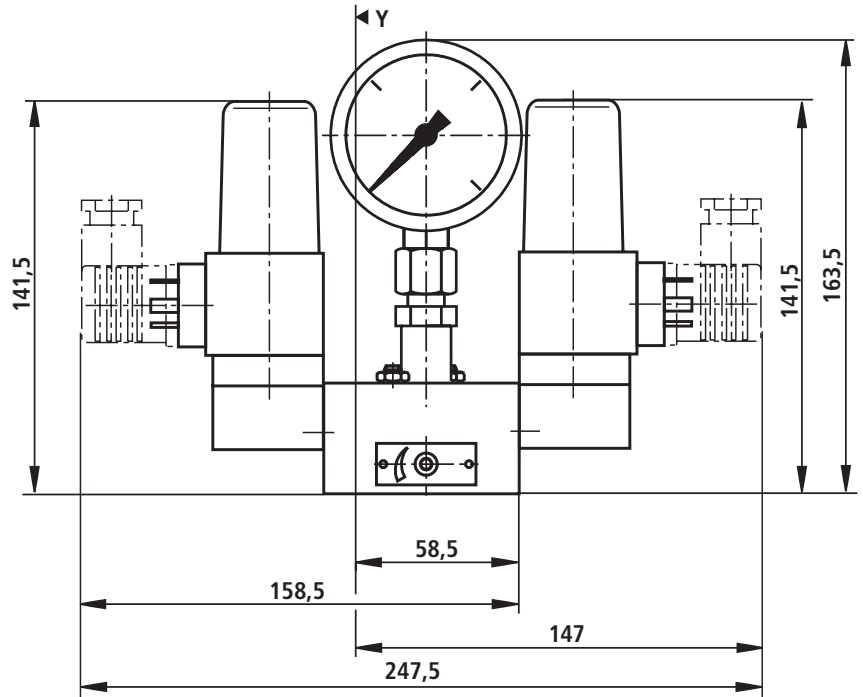
End module with pressure switch and isolator valve, type „WSEDA“

Symbol



Unit dimensions

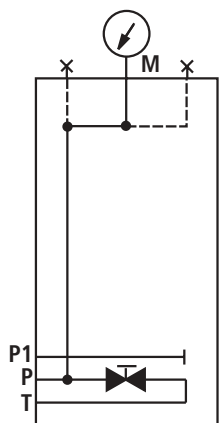
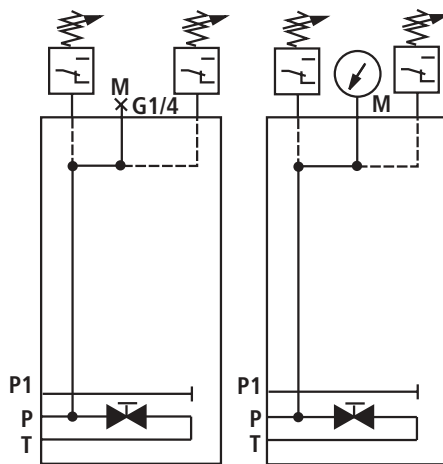
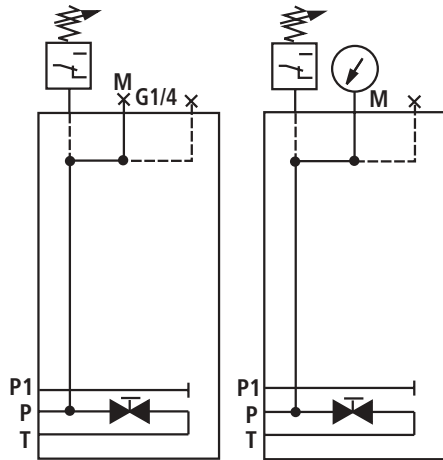
Dim. Z = 55 mm



## Poppet valve module, type „S“

End module with pressure switch, isolator valve and P1 - port, type „WSEDAP1“

Symbol



## Poppet valve module, type „S“

Material No.	Component description	Type code
	End module with pressure switch and isolator valve	IH15MA-1X/WSEDA- <input type="checkbox"/> <sup>9</sup> <input type="checkbox"/> <sup>11</sup> / <input type="checkbox"/> <sup>12</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>15</sup> / <input type="checkbox"/> <sup>26</sup>
R904100815		IH15MA-1X/WSEDA-0/D/100/V
R901094566		IH15MA-1X/WSEDA-0/D/400/V
R904100208		IH15MA-1X/WSEDA-1HED5/100/D/V
R904101444		IH15MA-1X/WSEDA-1HED5/210/D/V
R904100040		IH15MA-1X/WSEDA-1HED5/210/O/V
R904100071		IH15MA-1X/WSEDA-1HED8/200/O/V
R904100675		IH15MA-1X/WSEDA-1HED8/350/D/V
R904100280		IH15MA-1X/WSEDA-2HED5/210/D/V
R901071162		IH15MA-1X/WSEDA-2HED8/200/D/V

Material No.	Component description	Type code
	End module with pressure switch, isolator valve and P1 - port	IH15MA-1X/WSEDAP1- <input type="checkbox"/> <sup>9</sup> <input type="checkbox"/> <sup>11</sup> / <input type="checkbox"/> <sup>12</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>15</sup> / <input type="checkbox"/> <sup>26</sup>
R901102912		IH15MA-1X/WSEDAP1-0/D/400/V
R901102913		IH15MA-1X/WSEDA-2HED5/210/D/V

<input type="checkbox"/> <sup>9</sup> No. of pressure switches	Without pressure switch One pressure switch Two pressure switches	= 0 = 1 = 2
<input type="checkbox"/> <sup>11</sup> Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15	= No code = HED 5 = HED 8
<input type="checkbox"/> <sup>12</sup> Pressure switch pressure stage	Without pressure switch Max. settable pressure 50 bar Max. settable pressure 100 bar Max. settable pressure 200 bar Max. settable pressure 210 bar Max. settable pressure 350 bar Max. settable pressure 630 bar	= No code = 50 = 100 = 200 <sup>2)</sup> = 210 <sup>3)</sup> = 350 = 630
<input type="checkbox"/> <sup>14</sup> Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> <sup>15</sup> Max. pressure range of the pressure gauge	Without pressure monitoring Display range 60 bar Display range 100 bar Display range 250 bar Display range 400 bar Display range 600 bar	= No code = 60 <sup>1)</sup> = 100 <sup>1)</sup> = 250 <sup>1)</sup> = 400 <sup>1)</sup> = 600 <sup>1)</sup>
<input type="checkbox"/> <sup>26</sup> Seal	Seal material	FKM = V

<sup>1)</sup> Details are only required when the modul does not have any pressrue switches fitted.

<sup>2)</sup> Only valid for HED 8

<sup>3)</sup> Only valid for HED 5

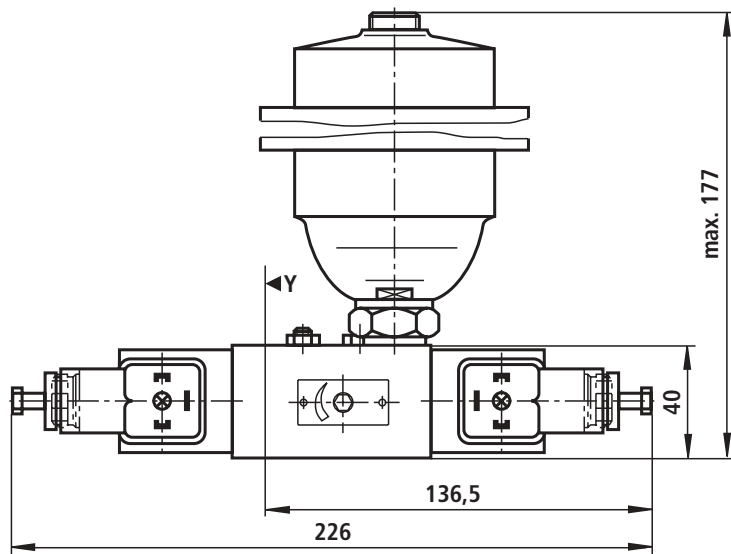
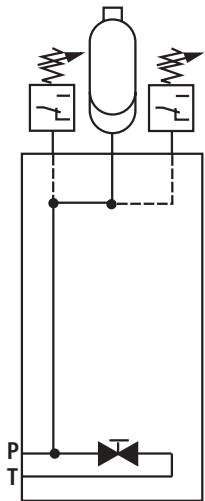
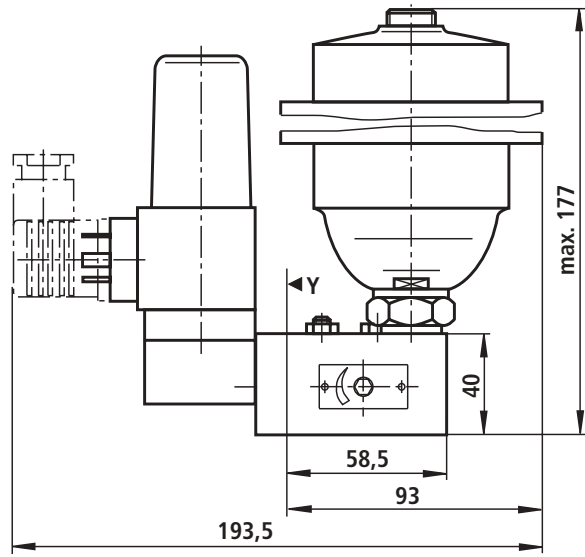
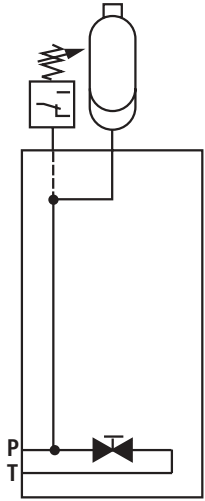
**Poppet valve module, type „S“ (nominal dimensions in mm)**

End module with accumulator and isolator valve, type „SESA“

Symbol

Unit dimensions

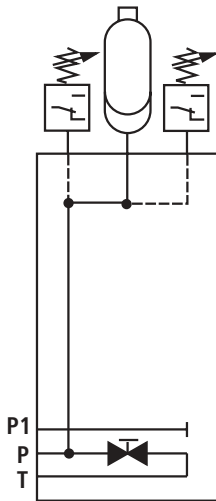
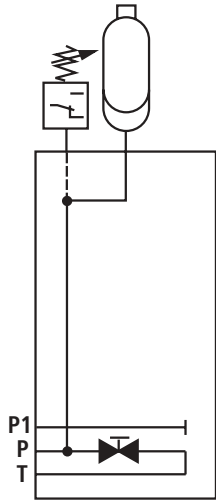
Dim.  $Z_{max} = 98,5$  mm



## Poppet valve module, type „S“

End module with accumulator, isolator valve and P1 - port, type „SESAP1“

Symbol



## Poppet valve module, type „S“

Material No.	Component description	Type code
	End module with accumulator and isolator valve	IH15MA-1X/SESA- <input type="text" value="9"/> <input type="text" value="11"/> / <input type="text" value="12"/> / <input type="text" value="18"/> / <input type="text" value="26"/>
R904100869		IH15MA-1X/SESA-0/0,32/V
R904100193		IH15MA-1X/SESA-1HED5/210/0,32/V
R904100921		IH15MA-1X/SESA-2HED5/210/0,32/V

Material No.	Component description	Type code
	End module with accumulator, isolator valve and P1 - port	IH15MA-1X/SESAP1- <input type="text" value="9"/> <input type="text" value="11"/> / <input type="text" value="12"/> / <input type="text" value="18"/> / <input type="text" value="26"/>
R901098223		IH15MA-1X/SESAP1-1HED5/100/0,32/V
R904101711		IH15MA-1X/SESAP1-2HED5/350/0,50/V

<input type="text" value="9"/>	No. of pressure switches	Without pressure switch One pressure switch Two pressure switches	= 0 = 1 = 2
<input type="text" value="11"/>	Pressure switch	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15	= No code = HED 5 = HED 8
<input type="text" value="12"/>	Pressure switch pressure stage	Without pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure	= No code = 50 = 100 = 200 <sup>2)</sup> = 210 <sup>3)</sup> = 350 = 630
<input type="text" value="18"/>	Membrane accumulator	Nom. flow in L without accumulator	Max. pressure in bar
	Bladder accumulator		
<input type="text" value="26"/>	Seal	Seal material	FKM = V

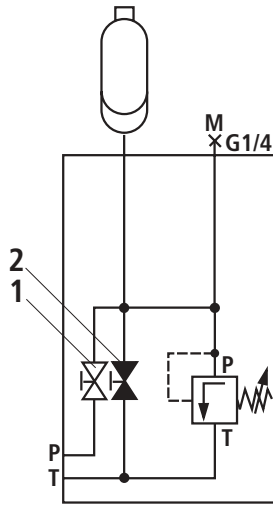
<sup>2)</sup> Only valid for HED 8

<sup>3)</sup> Only valid for HED 5

### Poppet valve module, type „S“ (nominal dimensions in mm)

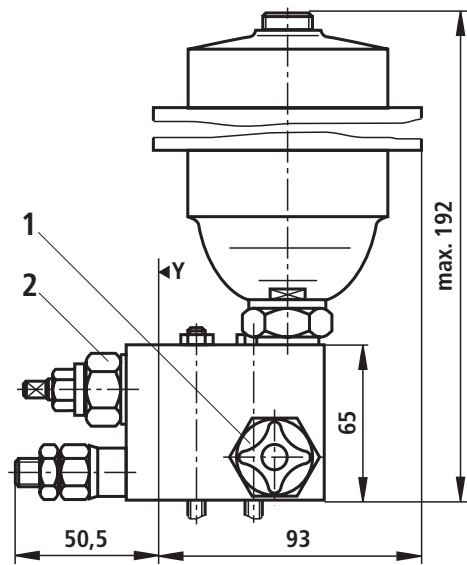
#### Accumulator safety block, type „SSB“

Symbol



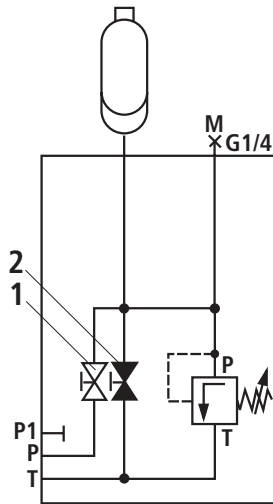
Unit dimensions

Dim.  $Z_{max} = 88,5$  mm



#### Accumulator safety block with P1 - port, type „SSBP1“

Symbol



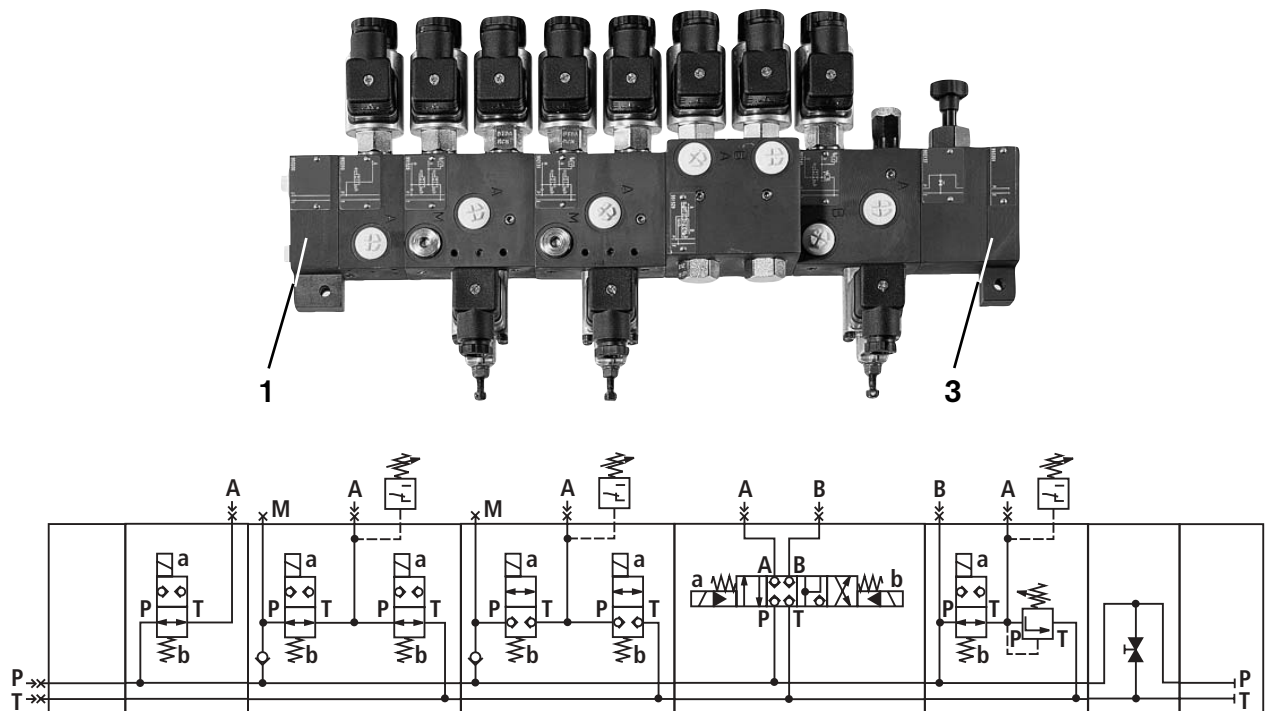
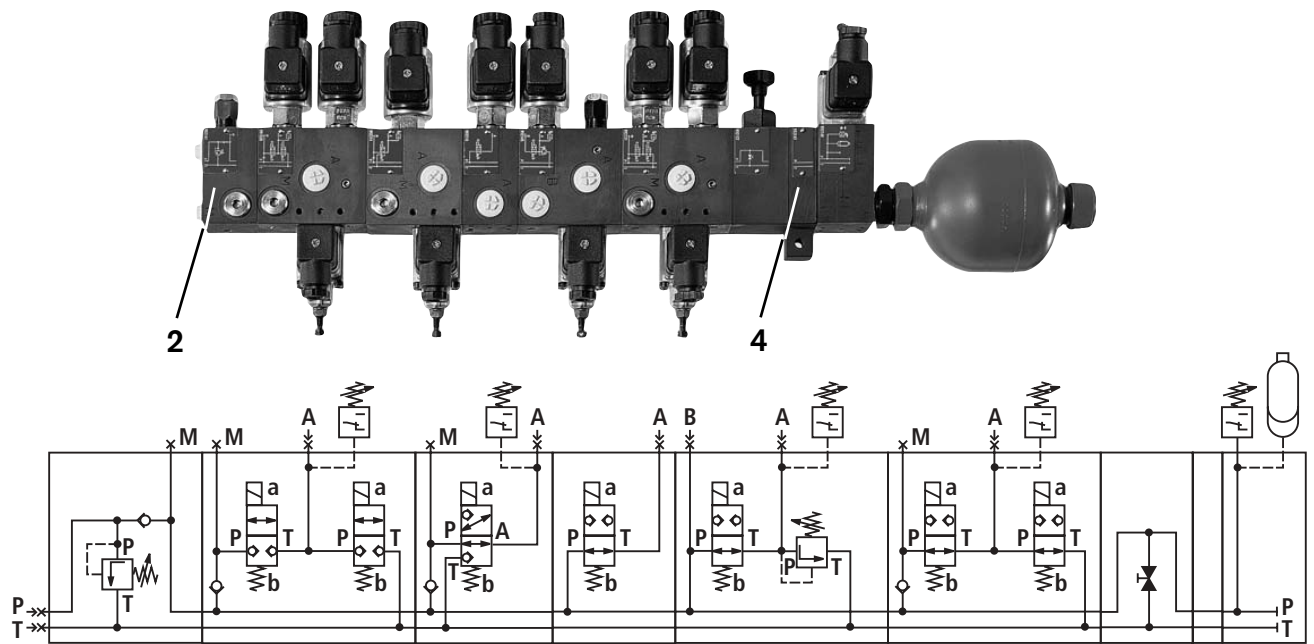
### Poppet valve module, type „S“

Material No.	Component description	Type code
	Accumulator safety block	IH15MA-1X/SSB- <input type="checkbox"/> <sup>1</sup> <input type="checkbox"/> <sup>3</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>18</sup> / <input type="checkbox"/> <sup>26</sup>
R904100486		IH15MA-1X/SSB-S210E/M/0,32/V
R900618898		IH15MA-1X/SSB-S210E/O/0,32/V
R900335037		IH15MA-1X/SSB-S210E/D/0,32/V

Material No.	Component description	Type code
	Accumulator safety block with P1 - port	IH15MA-1X/SSBP1- <input type="checkbox"/> <sup>1</sup> <input type="checkbox"/> <sup>3</sup> / <input type="checkbox"/> <sup>14</sup> / <input type="checkbox"/> <sup>18</sup> / <input type="checkbox"/> <sup>26</sup>
R904101907		IH15MA-1X/SSBP1-S210E/O/0,32/V

<input type="checkbox"/> <sup>1</sup>	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> <sup>3</sup>	Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) Further pressure stage on request!	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../.E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> <sup>14</sup>	Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> <sup>18</sup>	Membrane accumulator	Nom. flow in L without accumulator	Max. pressure in bar
		0,075	250 = No code = 0,075
		0,10	500 = 0,10
		0,16	250 = 0,16
	Bladder accumulator	0,32	210 = 0,32
		0,50	400 = 0,50
<input type="checkbox"/> <sup>26</sup>	Seal	Seal material	FKM = V

## Module for separate mounting: application with an application example



- 1 Connection module type A (see page 70)
- 2 Connection module with pressure relief valve type ADB (see page 71)
- 3 End module type E (see page 73)

- 4 Sandwich module type Z (page 72)  
The sandwich module can be combined with the connection module Pos. 1 or with the end module Pos. 3.

The length dimension is obtained by the addition of dim. „X“ of the directional valve modules (see pages 17 to 18) and the poppet valve modules (see pages 29 to 68).

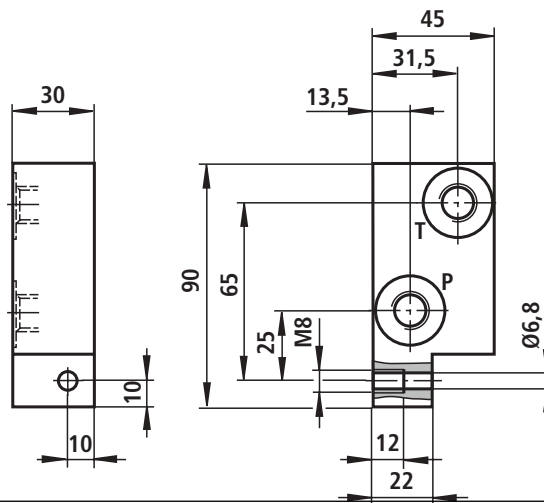
**Module for separate mounting** (nominal dimensions in mm)

Connection module, type „A“

Symbol



Unit dimensions



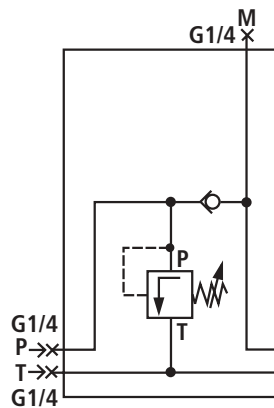
Material No.	Component description	Type code
	Connection module	IH15MA-1X/A- <input type="text" value="26"/>
R900993200		IH15MA-1X/A-V

<input type="text" value="26"/> Seal	Seal material	FKM	= V
--------------------------------------	---------------	-----	-----

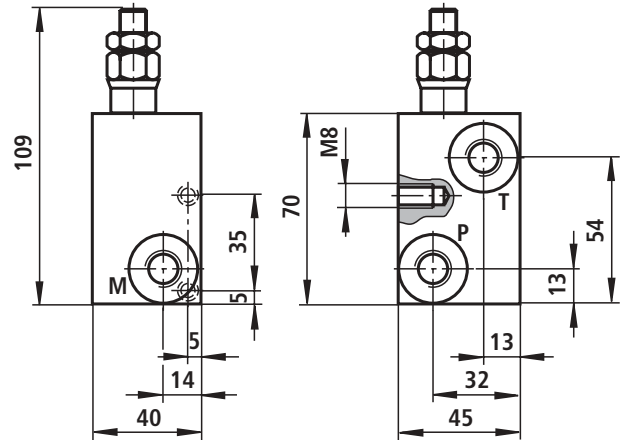
### Module for separate mounting (nominal dimensions in mm)

Connection module with pressure relief valve, type „ADB“

Symbol



Unit dimensions



Material No.	Component description	Type code
	Pressure relief module	IH15EA-1X/ADB- <input type="checkbox"/> 1 <input type="checkbox"/> 2 / <input type="checkbox"/> 14 / <input type="checkbox"/> 26
R900703591		IH15EA-1X/ADB-S350/D/V
R901103341		IH15EA-1X/ADB-S350/M/V
R904100621		IH15EA-1X/ADB-S350/O/V

<input type="checkbox"/> 1	Pressure relief valve adjustment element	Grub screw with internal hexagon Rotary knob	= S = H
<input type="checkbox"/> 2	Pressure relief valve pressure ratings	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 350 bar = 350 500 bar = 500
Pressure stage of the design tested pressure relief valve to directive 97/23/EC (pressure component directive) further pressure stages on request!			
		Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	210 bar = 210E 250 bar = 250E 400 bar = 400E 500 bar = 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			See page 79
<input type="checkbox"/> 14	Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring	= D = M = O
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

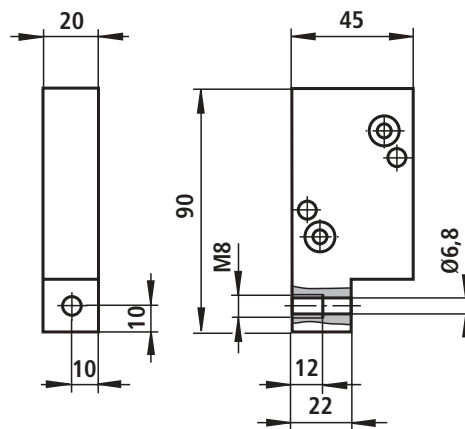
**Module for separate mounting (nominal dimensions in mm)**

**Sandwich module, type „Z“**

Symbol

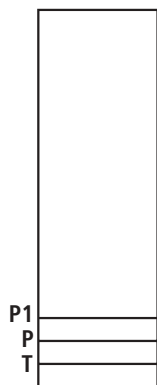


Unit dimensions



**Sandwich module with P1 - port, type „ZP1“**

Symbol



Material No.	Component description	Type code
	Sandwich module	IH15MA-1X/Z- <input type="text" value="26"/>
R900992147		IH15MA-1X/Z-V

Material No.	Component description	Type code
	Sandwich module with P1 - port	IH15MA-1X/ZP1- <input type="text" value="26"/>
R904100358		IH15MA-1X/ZP1-V

<input type="text" value="26"/> Seal	Seal material	FKM	= V
--------------------------------------	---------------	-----	-----

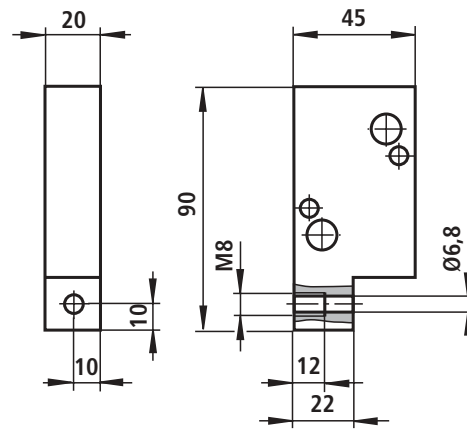
**Module for separate mounting (nominal dimensions in mm)**

End module, type „E“

Symbol

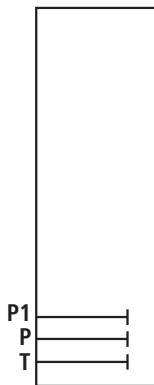


Unit dimensions



End module with P1 - port, type „EP1“

Symbol



Material no.	Component description	Type code
	End module	IH15MA-1X/E- <sup>26</sup> <input type="text"/>
R900993201		IH15MA-1X/E-V

Material No.	Component description	Type code
	End module with P1 - port	IH15MA-1X/EP1- <sup>26</sup> <input type="text"/>
R900262117		IH15MA-1X/EP1-V

<sup>26</sup> <input type="text"/> Seal	Seal material	FKM	= V
---	---------------	-----	-----

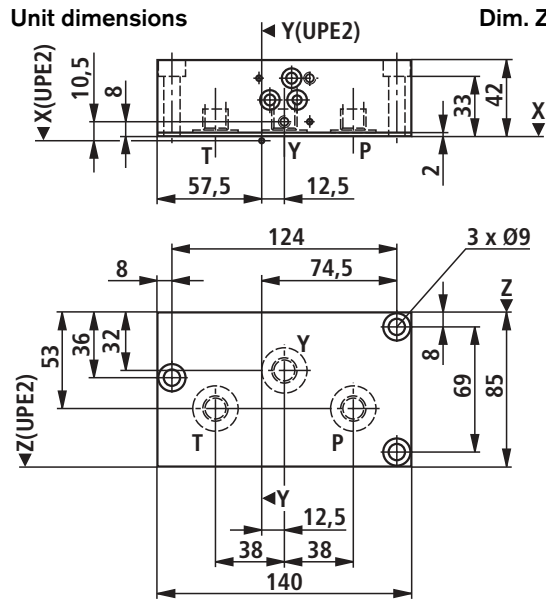
### Reducer module, type R (nominal dimensions in mm)

Reservoir connection module with reduction to the IH15A, type „RBAIH15A“

Symbol



Unit dimensions Dim. Z = 85 mm



Material No.	Component description	Type code
	Reservoir connection module with reduction to the IH15A	IH15MA-1X/RBAIH15A- <input type="text" value="26"/>
R904101835		IH15MA-1X/RBAIH15A-V

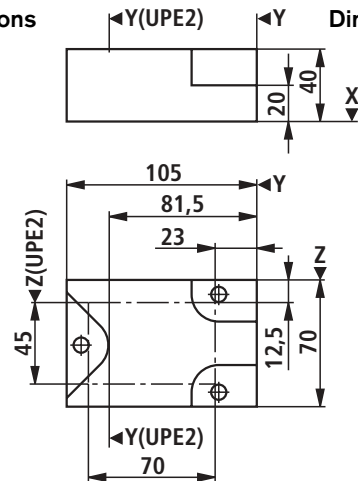
<input type="text" value="26"/> Seal	Seal material	FKM	= V
--------------------------------------	---------------	-----	-----

Reducing module IH15B to IH15A (right), type RIH15AR“

Symbol



Unit dimensions Dim. Z = 70 mm



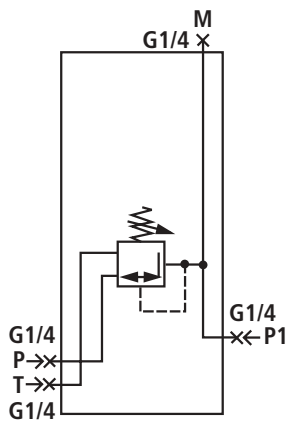
Material No.	Component description	Type code
	Reducing module IH15B to IH15A	IH15MA-1X/RIH15AR- <input type="text" value="27"/> / <input type="text" value="26"/>
R904101836		IH15MA-1X/RIH15AR-V

<input type="text" value="26"/> Seal	Seal material	FKM	= V
<input type="text" value="27"/> Throttle	Without throttle Throttle diameter Throttle diameter	Ø 1,0 mm Ø 2,5 mm	= No code = B10 = B25

**Module with threaded connections, for line mounting (nominal dimensions in mm)**

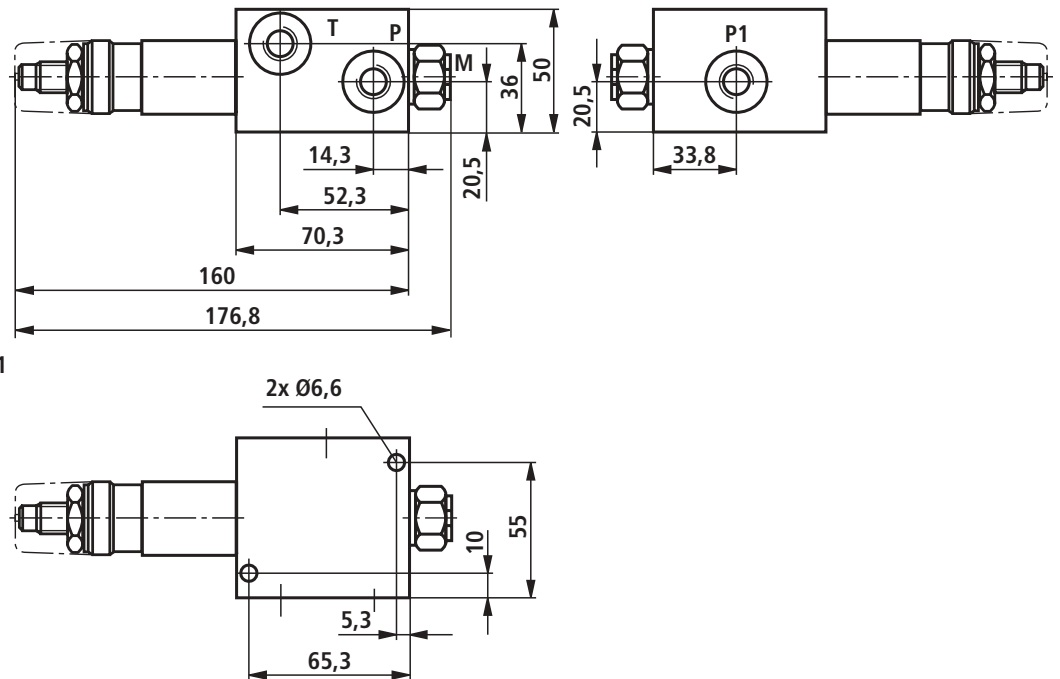
Pressure reducing module with threaded connections, type „SDRG“

Symbol



Unit dimensions

Dim. Z = 65 mm



Material No.	Component description	Type code
	Pressure reducing module	IH15EA-1X/SDRG- <input type="checkbox"/> 16 / <input type="checkbox"/> 17 / <input type="checkbox"/> 14 / <input type="checkbox"/> 26
R901105958		IH15EA-1X/SDRG-2/210/D/V
R901105959		IH15EA-1X/SDRG-2/210/M/V
R901105960		IH15EA-1X/SDRG-2/210/O/V

<input type="checkbox"/> 14	Pressure monitoring	Pressure monitoring with pressure gauge NS63 With test point With pressure monitoring	= D = M = O
<input type="checkbox"/> 16	Adjustment element	Grub screw with internal hexagon and protective cap	= 2
<input type="checkbox"/> 17	Secondary pressure	Max. secondary pressure 25 bar Max. secondary pressure 75 bar Max. secondary pressure 150 bar Max. secondary pressure 210 bar	= 25 = 75 = 150 = 210
<input type="checkbox"/> 26	Seal	Seal material	FKM = V

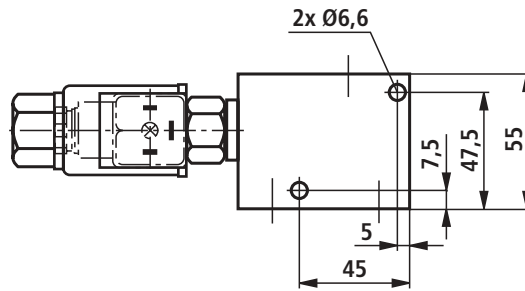
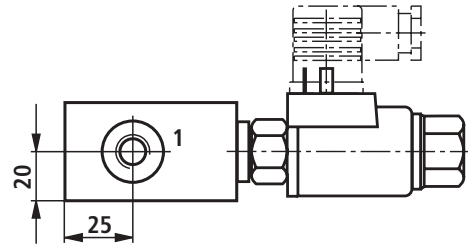
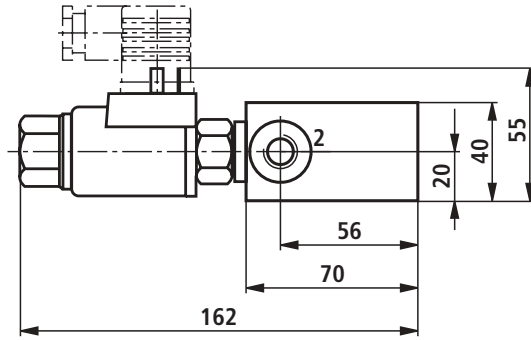
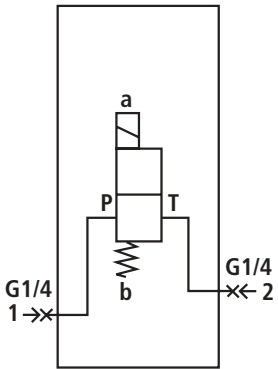
**Module with threaded connections, for line mounting (nominal dimensions in mm)**

**Module SPA2 with threaded connections, type „SPA2G“**

Symbol

Unit dimensions

Dim. Z = 55 mm



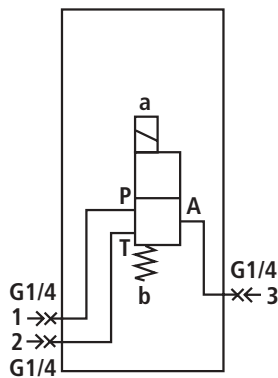
Material No.	Component description	Type code
	Module SPA2G	IH15EA-1X/SPA2G- <input type="text" value="4"/> <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R904101293		IH15EA-1X/SPA2G-NG24/350/V

<input type="text" value="4"/>	2/2 poppet valve designation	Normally closed Normally open	= N = P
<input type="text" value="7"/>	Poppet valve pressure rating	$p_{max}$ $p_{max}$	= 350 bar = 500 bar
<input type="text" value="8"/>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="text" value="26"/>	Seal	Seal material	FKM = V

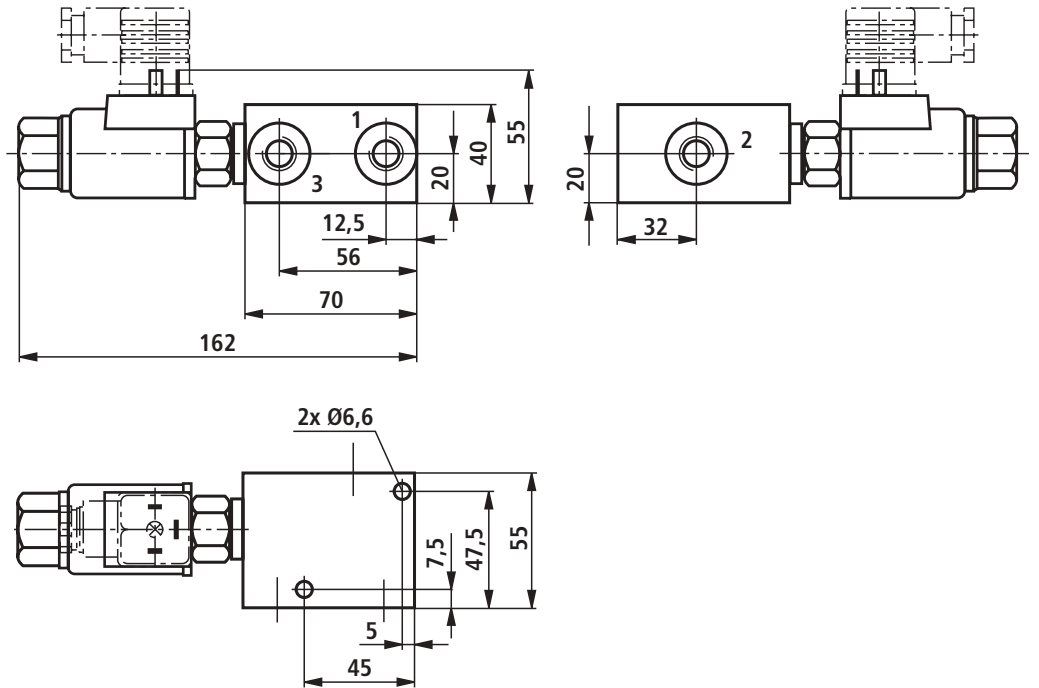
**Module with threaded connections, for line mounting (nominal dimensions in mm)**

**Module P – A with threaded connections, type „SPA3G“**

Symbol



Unit dimensions

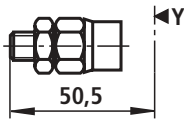
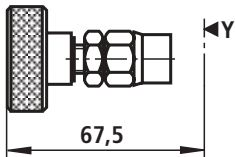
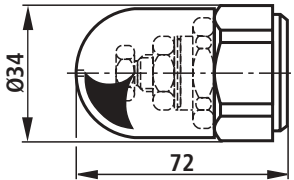
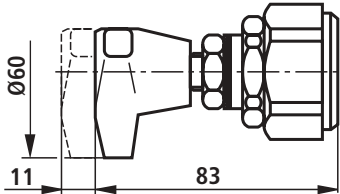
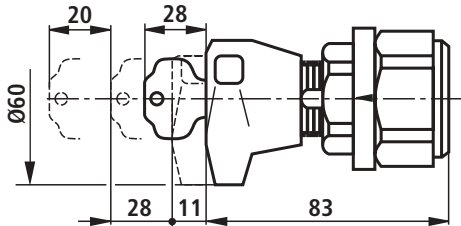


Dim. Z = 55 mm

Material No.	Component description	Type code
	Module SPA3G	IH15EA-1X/SPA3G- <input type="text" value="5"/> <input type="text" value="8"/> / <input type="text" value="7"/> / <input type="text" value="26"/>
R901103342		IH15EA-1X/SPA3G-CG24/350/V

<input type="text" value="5"/>	3/2 poppet valve designation		= U
<input type="text" value="5"/>	3/2 poppet valve designation		= C
<input type="text" value="7"/>	Poppet valve pressure rating	$p_{max}$ $p_{max}$	= 350 bar = 500 bar
<input type="text" value="8"/>	Poppet valve solenoid voltage	Volt	24 V DC = G24
<input type="text" value="26"/>	Seal	Seal material	FKM = V

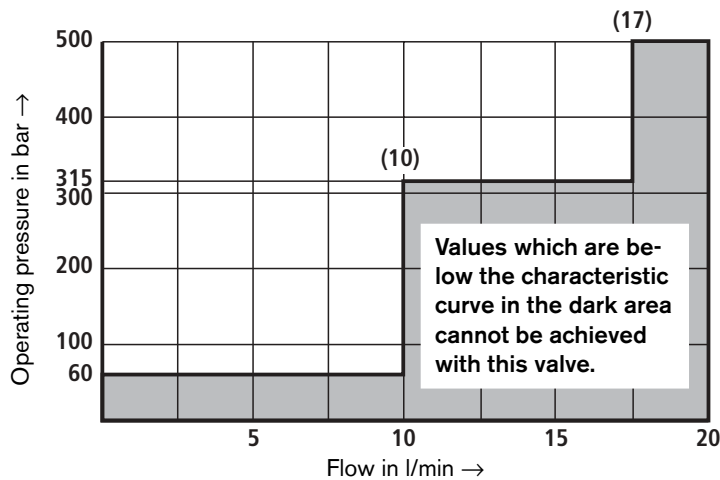
**Type key details** (nominal dimensions in mm)

<p>1</p> <p><input type="checkbox"/> Pressure relief valve adjustment element NS4</p>	<p>Grub screw with internal hexagon</p> 		= S	
	<p>Rotary knob</p> 		= H	
<p>Pressure relief valve adjustment element NS6</p>	<p>Grub screw with hexagon and protective cap</p> 		= S	
	<p>Rotary knob</p> 		= H	
	<p>Lockable rotary knob</p> 		= A	
<p>2</p> <p><input type="checkbox"/> Pressure relief valve pressure ratings NS4</p>	<p>Pressure settable up to max.</p>	50 bar	= 50	
	<p>Pressure settable up to max.</p>	100 bar	= 100	
<p>Pressure stage of the design tested pressure relief valve to directive NG4 97/23/EC (pressure component directive) Further pressure stages on request!</p>		<p>Pressure settable up to max.</p>	200 bar	= 200
		<p>Pressure settable up to max.</p>	350 bar	= 350
		<p>Pressure settable up to max.</p>	500 bar	= 500
		<p>Pressure settable up to max.</p>	140 bar	= 140E
		<p>Pressure settable up to max.</p>	210 bar	= 210E
		<p>Pressure settable up to max.</p>	250 bar	= 250E
		<p>Pressure settable up to max.</p>	330 bar	= 330E
		<p>Pressure settable up to max.</p>	400 bar	= 400E
		<p>Pressure settable up to max.</p>	500 bar	= 500E
<p><b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC</p>			See page 79	

**Type key details**

<input type="checkbox"/> <sup>2</sup> Pressure relief valve pressure ratings NS6	Pressure settable up to max.	25 bar	= 25
	Pressure settable up to max.	50 bar	= 50
	Pressure settable up to max.	100 bar	= 100
	Pressure settable up to max.	200 bar	= 200
	Pressure settable up to max.	315 bar	= 315
	Pressure settable up to max.	400 bar	= 400
Pressure stage of the design tested pressure relief valve NS6 to directive 97/23/EC (pressure component directive) Further pressure stages on request!			
	Pressure settable up to max.	50 bar	= 50E
	Pressure settable up to max.	100 bar	= 100E
	Pressure settable up to max.	140 bar	= 140E
	Pressure settable up to max.	210 bar	= 210E
	Pressure settable up to max.	330 bar	= 330E
<b>Kennlinie</b> für baumustergeprüfte Druckbegrenzungsventile Typ: DBD 6../..E Baumusterprüfung nach Druckgeräte-Richtlinie 97/23/EG			See page 80
<input type="checkbox"/> <sup>3</sup> Pressure stage of the design tested pressure relief valve NS4 to directive 97/23/EC (pressure component directive) Further pressure stages on request!	Pressure settable up to max.	140 bar	= 140E
	Pressure settable up to max.	210 bar	= 210E
	Pressure settable up to max.	250 bar	= 250E
	Pressure settable up to max.	330 bar	= 330E
	Pressure settable up to max.	400 bar	= 400E
	Pressure settable up to max.	500 bar	= 500E
<b>Characteristic curve</b> for the design tested pressure relief valve type: DBD 4../..E Design tested in accordance with the pressure component directive 97/23/EC			

NS4



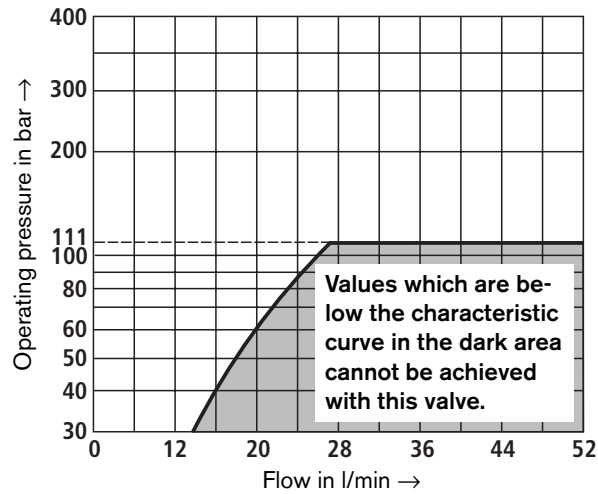
## Type key details

<sup>3</sup> Pressure stage of the design tested pressure relief valve NS6 to directive 97/23/EC (pressure component directive)  
Further pressure stages on request!

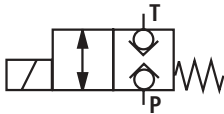
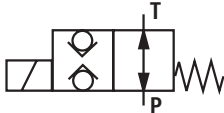
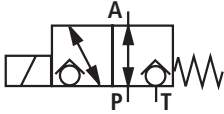
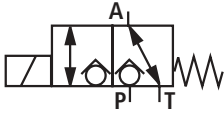
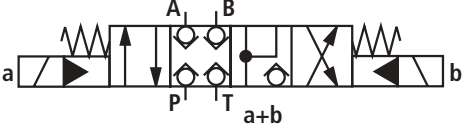
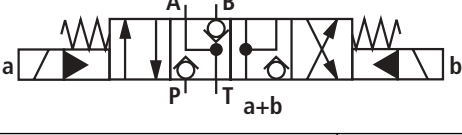
Pressure settable up to max.	50 bar	= 50E
Pressure settable up to max.	100 bar	= 100E
Pressure settable up to max.	140 bar	= 140E
Pressure settable up to max.	210 bar	= 210E
Pressure settable up to max.	330 bar	= 330E

**Characteristic curve** for the design tested pressure relief valve type: DBD 6../..E  
Design tested in accordance with the pressure component directive 97/23/EC

**NS6**



**Type key details**

<p>4</p> <p><input type="checkbox"/> 2/2 poppet valve designation</p>	Normally closed		= N
			
	Normally open		= P
			
<p>5</p> <p><input type="checkbox"/> 3/2 poppet valve designation</p>			= U
			= C
<p>6</p> <p><input type="checkbox"/> 4/4 poppet valve designation</p>			= K
			= L
<p>7</p> <p><input type="checkbox"/> Poppet valve pressure rating</p>	$p_{max}$ $p_{max}$	= 350 bar = 500 bar	= 350 <sup>1)</sup> = 500 <sup>1)</sup>
<p>8</p> <p><input type="checkbox"/> Poppet valve solenoid voltage</p>	Volt	24 V DC	= G24
<p>9</p> <p><input type="checkbox"/> No. of pressure switches</p>	Without pressure switch One pressure switch Two pressure switches		= 0 = 1 = 2
<p>10</p> <p><input type="checkbox"/> Pressure switch</p>	Without pressure switch HED 5 OP1X/...K14		= No code = HED 5
<p>11</p> <p><input type="checkbox"/> Pressure switch</p>	Without pressure switch HED 5 OP1X/...K14 HED 8 OP1X/...K15		= No code = HED 5 = HED 8

<sup>1)</sup> Details are only required when the module does not have any pressure switches fitted.

<sup>3)</sup> Only valid for HED 5

## Type key details

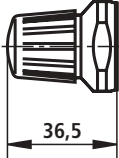
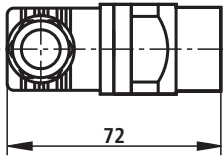

12 <input type="checkbox"/> Pressure switch pressure stage	Without pressure switch Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure Max. settable pressure	50 bar 100 bar 200 bar 210 bar 350 bar 630 bar	= No code = 50 = 100 = 200 <sup>2)</sup> = 210 <sup>3)</sup> = 350 = 630
13 <input type="checkbox"/> Pressure switch in port	Without pressure switch A B A and B		= No code = A = B = AB
14 <input type="checkbox"/> Pressure monitoring	With pressure gauge NS63 With test point Without pressure monitoring		= D = M = O
15 <input type="checkbox"/> Max. pressure range of the pressure gauge	Without pressure monitoring Display range Display range Display range Display range Display range	60 bar 100 bar 250 bar 400 bar 600 bar	= No code = 60 <sup>1)</sup> = 100 <sup>1)</sup> = 250 <sup>1)</sup> = 400 <sup>1)</sup> = 600 <sup>1)</sup>
16 <input type="checkbox"/> Adjustment element	Rotary knob Grub screw with hexagon and protective cap Lockable rotary knob with scale Rotary knob with scale		= 1 = 2 = 3 = 7
17 <input type="checkbox"/> Secondary pressure	Max. secondary pressure Max. secondary pressure Max. secondary pressure Max. secondary pressure Max. secondary pressure	25 bar 75 bar 150 bar 210 bar 315 bar	= 25 = 75 = 150 = 210 = 315
18 <input type="checkbox"/> Membrane accumulator	Nom. flow in L without accumulator 0,075 0,10 0,16 0,32 0,50	Max. pressure in bar 250 500 250 210 400	= No code = 0,075 = 0,10 = 0,16 = 0,32 = 0,50
<input type="checkbox"/> Bladder accumulator			

<sup>1)</sup> Details are only required when the module does not have any pressure switches fitted.

<sup>2)</sup> Only valid for HED 8

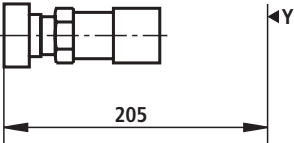
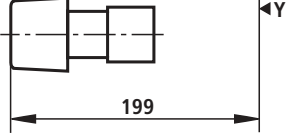
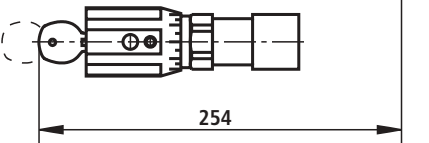
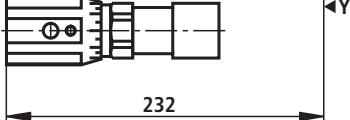
<sup>3)</sup> Only valid for HED 5

**Type key details** (nominal dimensions in mm)

<p>19  <input type="checkbox"/> Filter rating</p>	<p>06 µm                  10 µm</p>	<p>= 06<sup>4)</sup>                  = 10</p>												
<p>20  <input type="checkbox"/> Clogging indicator</p>	<p>Without clogging indicator</p>	<p>= A</p>												
	<p>Optical clogging indicator</p> 	<p>= O</p>												
	<p>Electrical clogging indicator</p> 	<p>= E</p>												
	<p>Electrical clogging indicator technical data</p> <table border="1"> <tr> <td>Maximum voltage</td> <td>V</td> <td>42</td> </tr> <tr> <td>Switching capacity</td> <td>VA</td> <td>100</td> </tr> <tr> <td>Protection with protective cap</td> <td></td> <td>IP 65</td> </tr> <tr> <td>Contact type</td> <td></td> <td>NC</td> </tr> </table> <p>Pin allocation</p>  <p>Clean filter element      Contaminated filter element</p>		Maximum voltage	V	42	Switching capacity	VA	100	Protection with protective cap		IP 65	Contact type		NC
Maximum voltage	V	42												
Switching capacity	VA	100												
Protection with protective cap		IP 65												
Contact type		NC												
<p>21  <input type="checkbox"/> Check valve</p>	<p>In port P                  In port T                  In ports P and T</p>	<p>= P                  = T                  = PT</p>												
<p>22  <input type="checkbox"/> Ports</p>	<p>Without ports                  P and T</p>	<p>= No code                  = PT</p>												


<sup>4)</sup> Not available for pressure filter module with pressure relief valve NS6, type „DF30DB6“.

**Type key details** (nominal dimensions in mm)

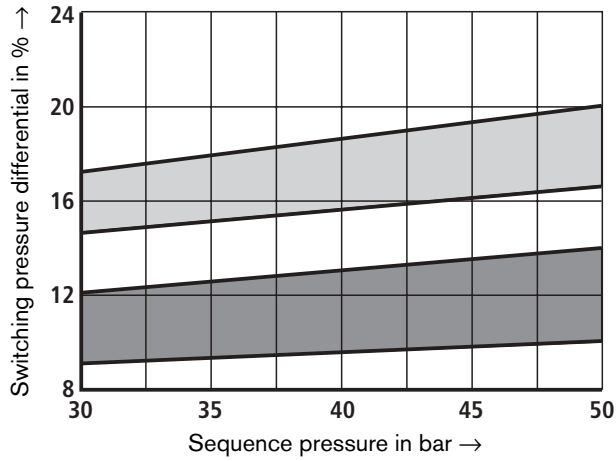
<input type="checkbox"/> 23	Pressure sequence valve adjustment element	Rotary knob 	= 1
		Sleeve with hexagon and protective cap 	= 2
		Lockable rotary knob 	= 3
		Rotary knob with scale 	= 7
<input type="checkbox"/> 24	Pressure sequence valve pressure rating	Pressure settable up to max. Pressure settable up to max. Pressure settable up to max. Pressure settable up to max.	50 bar = 50 100 bar = 100 200 bar = 200 315 bar = 315
<input type="checkbox"/> 25	Switching pressure differential	Switching pressure differential Switching pressure differential	10% = 10 17% = 17
<input type="checkbox"/> 26	Seal	Seal material	FKM = V
<input type="checkbox"/> 27	Throttle	Without throttle Throttle diameter Throttle diameter	= No code = B10 = B25

## Pressure sequence valve

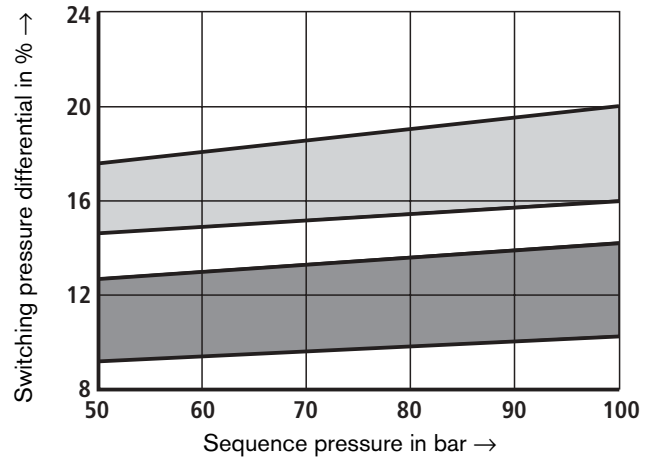
Suitable for use with flows  $q_v \geq 2$  l/min

Example spread at a pressure switching differential of: 17%  10% 

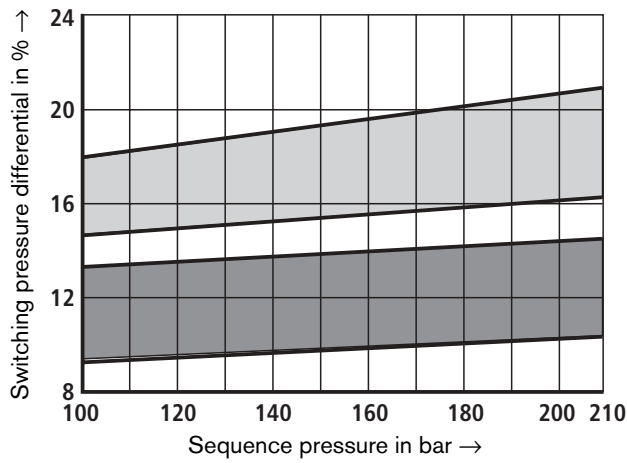
Pressure stage 50 bar



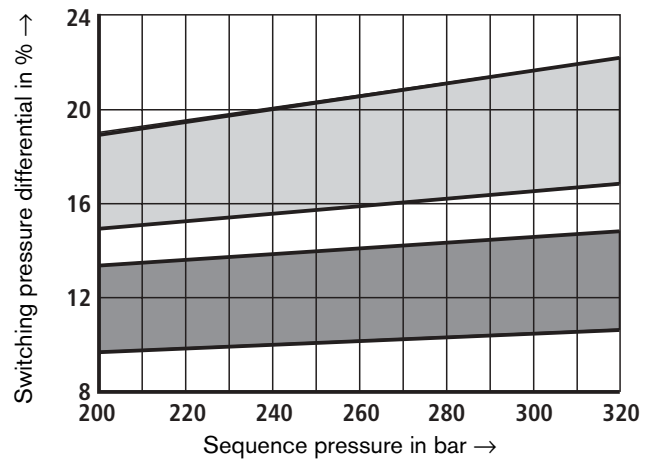
Pressure stage 100 bar



Pressure stage 200 bar



Pressure stage 315 bar



## Type code for modules with vertical stacking assemblies

Types: ABCOC / ABBOC

**AB** | **COC** - **IH15A** - **MUSTER** - **SCHUTZGITTER** - **06** - **AA** | **07**

Power units/  
manifolds

Customer orientated  
controls = **COC**  
Branch orientated  
controls = **BOC**

Component type  
IH15A

Customer or branch name  
e.g.  
Examples or presses

Consecutive  
number  
e.g.  
**07** = Number 7

Variant identification  
Depicts the component  
variations fitted

Valve NS

Function description  
(to customer or  
branch description)

e.g.  
Clamping  
Small hatch  
Revolver  
Guard grill

## Type key for complete controls

Type: IH15BA

**IH** | **15** | **B** | **A** | **006** - **1X** / **07** | **024** | **AA** / **W220** | **N9** | **K4** | **M** | **01**

Industrial hydraulics

Module series  
15

Assembly  
from module series

Nominal size  
Nom. size A = **A**  
 $q_v$  to 30 l/min

NS of the largest valve  
NS6 = **006**

Component series 10 to 19 = **1X**  
10 to 19 unchanged installation and connection  
dimensions

No. of modules  
E.g.  
7 Modules = **07**

Connection type  
**01** = Pipe thread to  
ISO 228 part I

Seal material  
**M** = NBR seal  
**V** = FKM seal

Electrical connection type  
Built-on components

Version  
Hand override  
built-on components

Valve voltage  
E.g.  
**G24** = 24 V DC  
**W220** = 220 V AC

Variant identification  
Depicts the component variations fitted

Consecutive number  
E.g.  
**024** = Number 24

Example:

**IH15BA006-1X/07024AA/W220N9K4M01**

Nominal size A IH15B assembly up to 14 l/min. with NS6  
valves, 7 modules, consecutive n. 24, variant AA, 220 V AC,  
N9 hand override, K4 connection type, seal material Perbunan,  
connection type with pipe threads to ISO 228 part 1

## Accessories

### Filter element

Material No.	Module	Designation	NS	Material	Filter rating
R901039452	F06	Filter element	06	FKM	06 $\mu\text{m}$
R900992672	F06	Filter element	06	FKM	10 $\mu\text{m}$
R904001261	F30	Filter cartridge	30	FKM	06 $\mu\text{m}$
R904001262	F30	Filter cartridge	30	FKM	10 $\mu\text{m}$
R904500023	DF30	Filter element	30	FKM	10 $\mu\text{m}$

### Assembly tool for a filter cartridge

- Strap wrench, Material No.: R904001048

### Dimension details: Reservoir cut-out for module RBAIH15A (nominal dimensions in mm)

