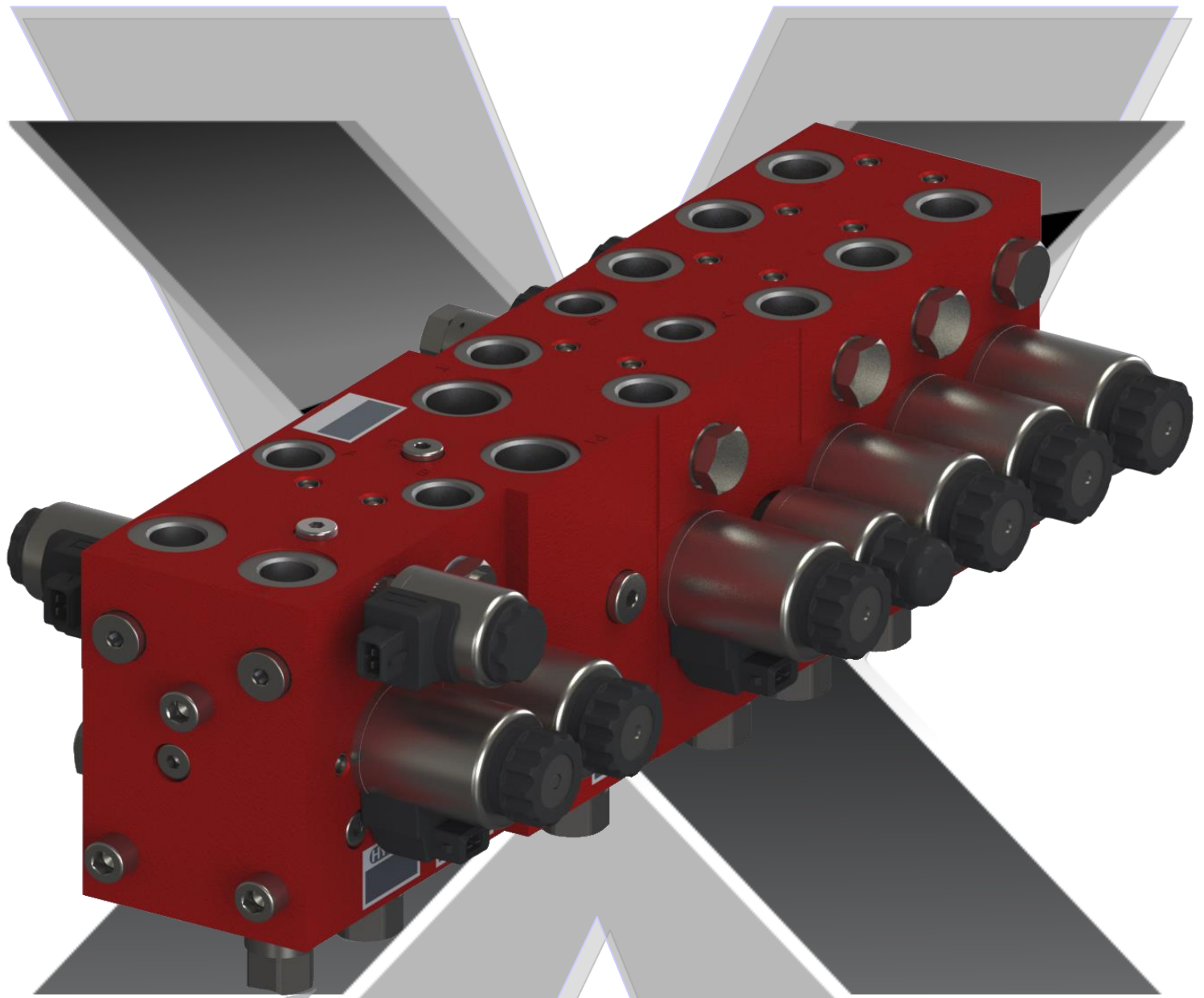


Compact Hydraulics HX1 - The modular manifold system for mobile working machines

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 120 \text{ l/min}$



Introduction

HYDAC presents the modular manifold system for the working hydraulics in mobile machines. The performance range is depending on the module 0-80(100) l/min. It is adjusted to the complex and flexible demands of the mobile hydraulics (e.g. municipal-, agricultural- and construction machines).

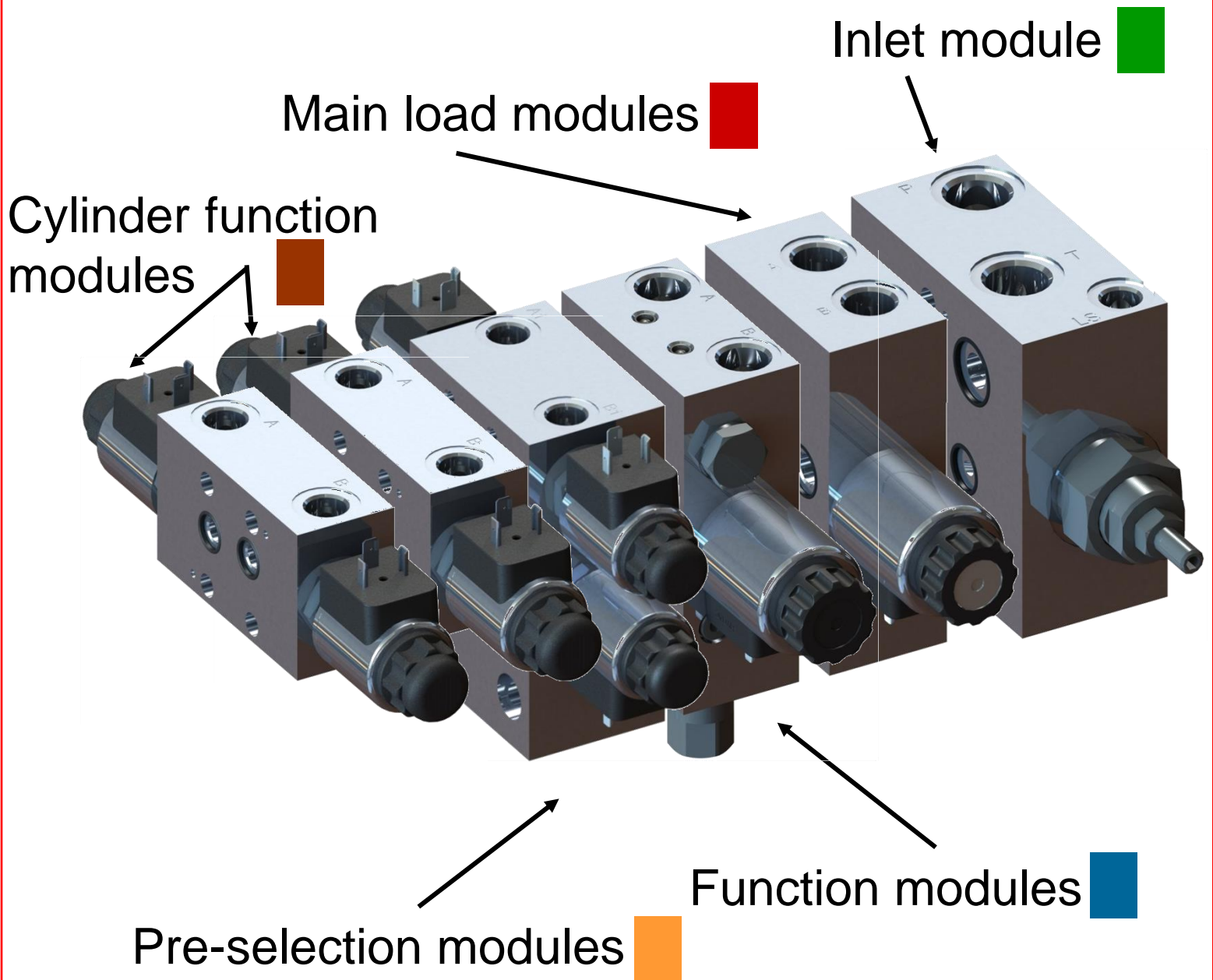
The system is based on the existing valve technology of HYDAC. The special demands of the mobile branch were incorporated: compact, enlargeable, weight-optimized and service-friendly.

Machine development times at the producers of mobile working machines are shortened more and more – as well as the times between project start and production start. Here the manifold system is at optimal development tool: the machine producer defines a basic machine (Standard), which may be enlarged with possible options. Exactly according to this schematic a basic manifold system will be chosen and optional modules defined. A short delivery time and the flexibility, which allows to integrate options in at easy way at every time of the process, are securing a fast and successful project start.

Application competence and reaction promptness are the decisive competitive advantages which are transferred by the system to the producers of working machines and their hydraulics. By specific accommodation of the system customers demands will be optimal fulfilled.



System building



Bolting:

Type of screw:	Internal hexagon, DIN 912
Screw quality:	10.9
Torque:	4 p. M8 = 18 + 2 Nm (for cylinder Function modules) 3 p. M10 = 30 + 3 Nm (for all other modules)
Screw lengths:	15 – 20mm longer as the width of all modules together
Max. Width:	M10 420 mm M8 300 mm
Annotation:	All modules are screwed in the Inlet module. The cylinder function modules are screwed in the pre-selection module.

DG (PG) | Nominal voltage / Interfaces

Spare parts



Nominal voltages:

12 and 24 Volt.

Stand-connections:

Deutsch-connector
 COIL 12DN-50-2345
 COIL 24DN01-50-2345
 COIL 12PN-5.0-50-2345
 COIL 24PN-19.2-50-2345

DN / (Proportional PN)
 3241892
 3525252
 3490265
 3490243

DIN-connector

COIL 12DG-50-2345
 COIL 24DG-50-2345
 COIL 12PG-5-50-2345
 COIL 24PG-19.2-50-2345

DG / (Proportional PG)
 3274860
 3274861
 3274856
 3274857

Interfaces:

Hydraulic Ports:

P, TA and TB = G1/4
 LS = G1/8"

For sealing the modules: O-rings in countersinks, the last module is plugged (VSTI).

Stand HX1-Interfaces:

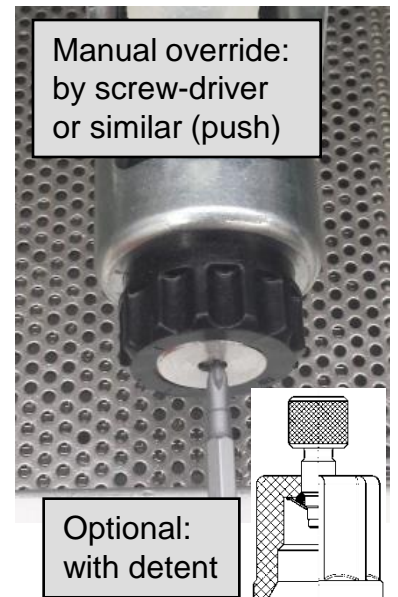
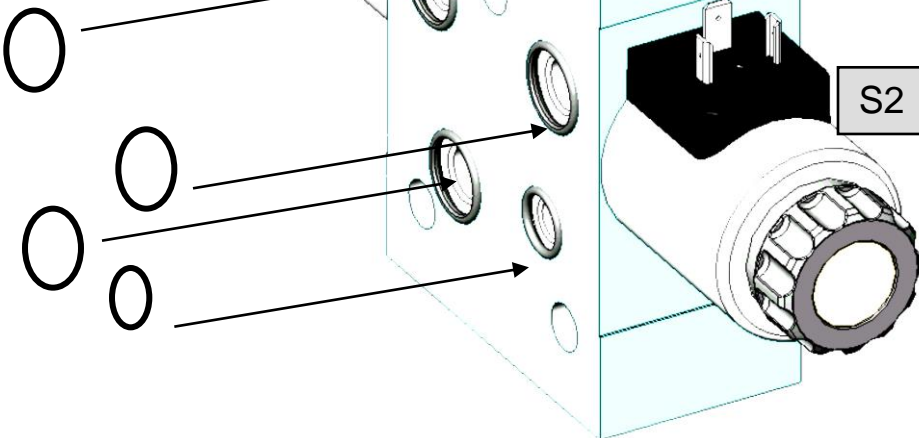
1. LS Interface

Sealkit set

consisting of
 3 x 17,17 and
 1 x 12,42

FPM Part no. 3556318

NBR Part no. 3491994



At the On/Off Interface, pressure can be at both ports on choice.

2. On/Off Interface for cylinder functions

Single O-Rings

O-Rings LS

12,42 x 1,78-NBR-80SH
 (Part no. 609441)

O-Rings P/T

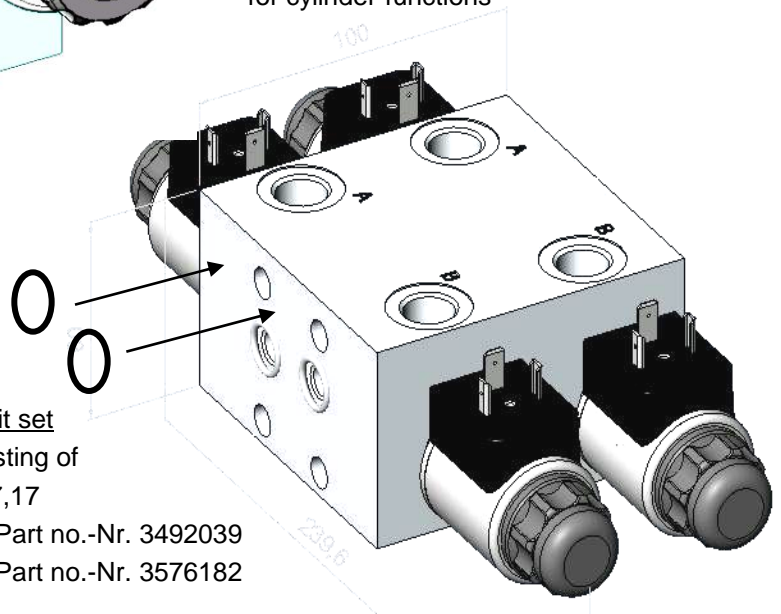
17,17 x 1,78 NBR-80SH

Sealkit set

consisting of
 2 x 17,17

FPM Part no.-Nr. 3492039

NBR Part no.-Nr. 3576182



Projecting hints

General

Screw lengths:

Maximal Screw length for M10: 420mm

Maximal Schraubenlänge for M8: 300mm

Attention: Abstufungen bei längeren Schrauben will be immer grober (20->50mm)

Relief of the LS-line:

In general the relief of the LS-line is realized either over one pressure compensator DWM with LS-relief (Type 01, 02 and 03) or over one corresponding orifice (diameter 0,4 – 0,5mm) between LS- and T-line.

If a LS-relief over the Inlet module is not possible (e.g. at E2P... at the 1.priority), the LS-relief should be done via a check valve RVP06 with borehole in the cone. This relief has to be realized directly at the function with the highest possible flow rate and highest possible switch-on time because of the reason that the LS-signal is not falsified by a leakage.

In the system only one relief in the system makes sense, therefore one has to pay attention that the used LS-pump has at own relief.

The LS-relief in the Inlet module of the system leads to permanent pressure loss. But this has the advantage that in different system variations the relief is always realized.

Nozzle equipment at the Load-Sensing (LS)-tap:

The equipment of the LS-tap with orifice falsifies the LS-signal, especially at functions with high flow rate. This may lead to that the single function is not running at highest speed because the inlet pressure compensator gets a too low LS-pressure.

Technical specifications of the module:

The named values for operating pressure, flow rate and temperatures in the technical specifications are consisting of the values for the deployed valves. Conditions: 100% ED, 115% of the nominal voltage and max. Ambient temperature. If these conditions are not or only partly given, temperatures have to be enlarged.

Operation at deep temperatures:

Minimal stock temperature: -30°C

Operating temperature: at -20°C

- attention should be paid to the viscosity at start. Danger of cavitation at highly viscous media. The listed specification in viscosity has to be paid attention to and to be kept by corresponding media.
- New components have to be filled at higher temperatures to ensure a sufficient lubrication
- Measure for pumps, filters, cylinders, gears, etc. have to be adjusted with the producers.

Warming up instructions:

- warm-up system to minimal -30°C, start engine
- adjust pumps to neutral position without flow
- use pumps for at least 10 min at idle speed
- afterward swivel pumps slowly or use in pressure-reduced mode (max.50 bar and 50% flow)
- act all system-functions some times without load
- continuous flow through all components to avoid temperature shocks
- maximal temperature difference between media and component max.20°C
- Hydro-motors between flush and leakage port cross sectional (pay attention to housing pressure)
- system if ready for use at temperatures over -20°C



This sign is a „fast delivery sign“ – it assures a delivery time of 14 days for the corresponding module.

Projecting hints

Inlet modules:

Influence of the inlet pressure compensator and the individual pressure compensator on the flow:

The size of the used spring in the inlet pressure compensator is responsible for the whole flow in the complete system. The spring has to be always bigger than in the following individual pressure compensators. In countless tests have shown, that the spring rate of the inlet pressure compensator has to be as strong (e.g. 8bar) that the demanded flow at the biggest load is only overriden a little. By this measure the deltaP value of the unpressurized flow is smaller – lower energy consumption.

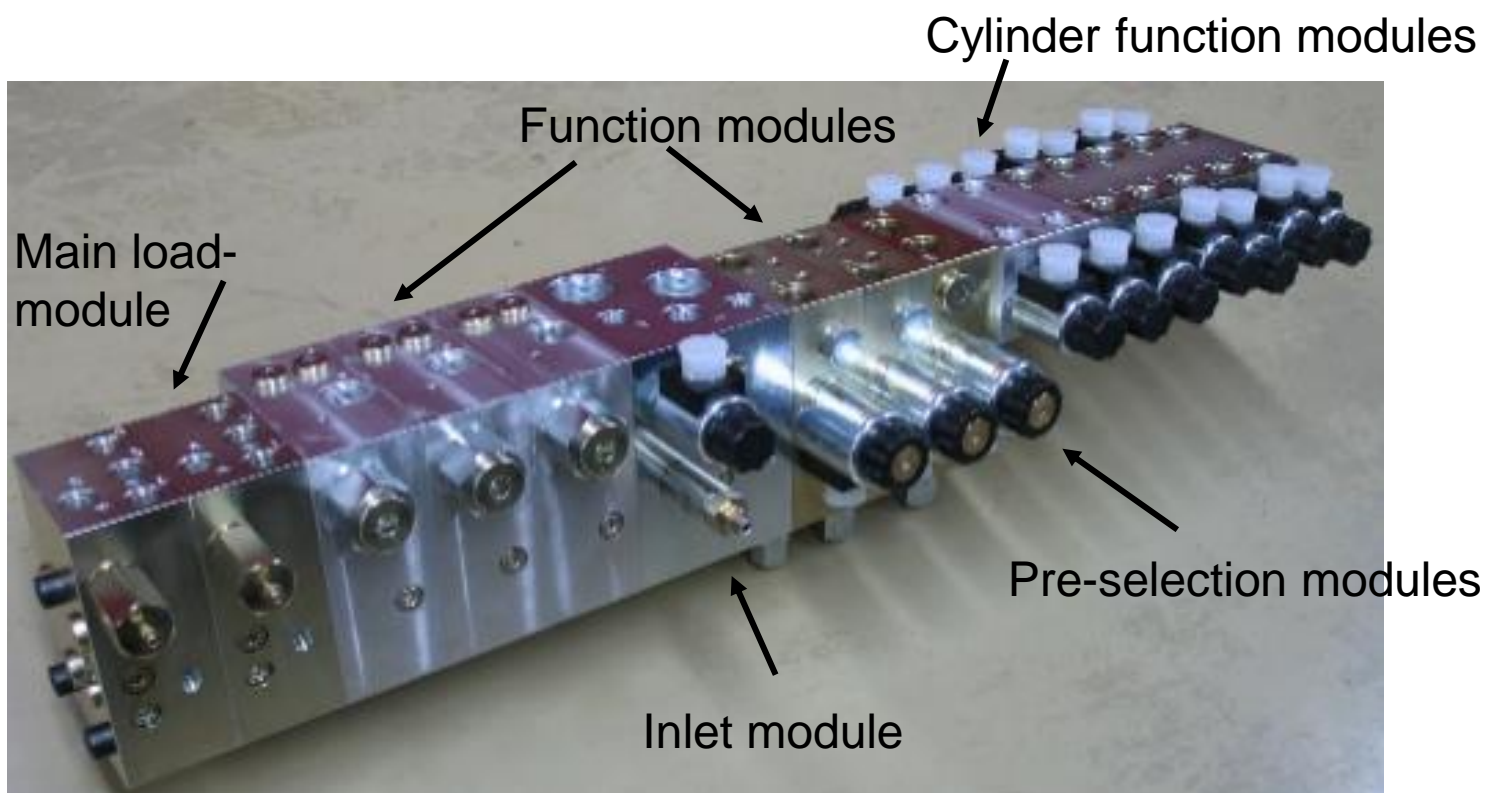
The spring rate of the individual pressure compensator is designed accordingly to the inlet pressure compensator. The spring pressure should be around 3bar smaller than inlet (necessary delta P). If the chosen individual pressure compensator begins with the throttling of the oilflow to early – the chosen spring is too weak.

Function modules:

Position of the modules in the complete system:

The Module (Function module) with the highest flow have to be directly installed at the Inlet module. Smaller loads follow. The smallest loads (e.g. cylinder functions) have to be mounted at the end. By doing this the best supply is assured.

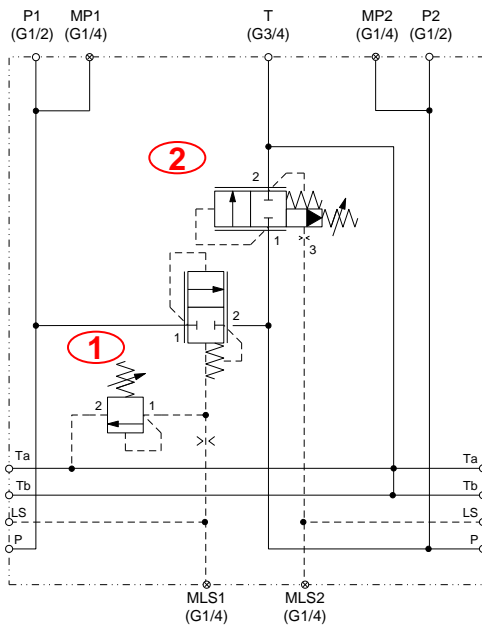
HX1 System with two priorities



Inlet modules

Model code

Example:



E1 BD 5/180 – DD 10/200 - LV – 24DG

Name

- E1 = Inlet module with single sided possibility to flange-on right side
 E2 = Inlet module with both sides possibility to flange-on

Inlet valve

- ZD = *pressure compensator DWM standard
 BD = *pressure compensator DWM-B (lockable by tool)
 HD = *pressure compensator DWM-H (lockable by Hand)
 RD = *pressure compensator DWR
 DD = *pressure compensator DWM-D (integr. PR-Function)
 P2 = module with 2 priorities
 P3 = module with 3 priorities
 PR = Pressure relief valve PR4E and circulation valve
 SD = Needle valve DV or SD
 RV = Check valve
 WS = Solenoid poppet valve WS...
 WK = Solenoid spool valve WK...

Pressure compensators choice

*In case of using with pressure compensator afterwards circulation pressure (= spring force) and PR pressure will be named, e.g.05/200 (s. choicelist)
 O/O = module without pressure compensator

2. pressure compensator (*s. Inlet valve)

O/O = without pressure compensator (with plug Part no.)
 *In case of using with pressure compensator afterwards circulation pressure and PR pressure will be named, e.g.05/200 (s. choicelist)

module with special functions (not in all manifolds)

- O = without
 FZ = Filter in upstream line
 LV = steering supply
 WS = Solenoid poppet valve
 DS = pressure switch or pressure sensor
 DU = pressure circulation valve
 ZA = additional port
 UN = universal application (different pump types)

Coil assembly (on/off or prop. possible)

- 12DG = 12 Volt DC current with DIN connector to EN 175301-803
 24DG = 24 Volt DC current with DIN connector to EN 175301-803
 12PG = 12 Volt proportional with DIN connector to EN 175301-803
 24PG = 24 Volt proportional with DIN connector to EN 175301-803

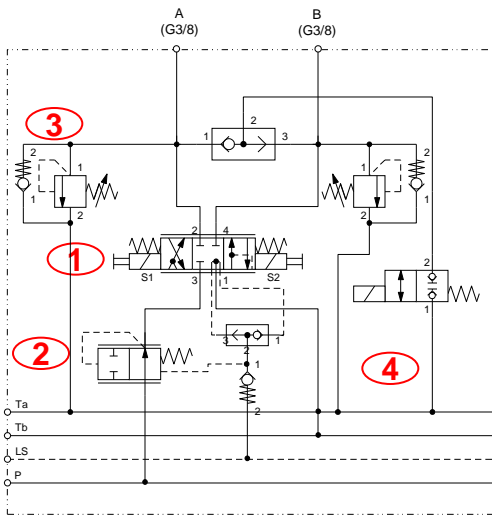
Choicelist for pressure compensators:

Name
 DWM12130R
 DWM12121Z...D
 DWM12121Z...-B/H
 DWM12121Z... MD

Function modules

Model code

Example:



Function modules with J- or E spool could perform in On/Off operation up to zu 70 l/min and in proportional operation up to 35 l/min . The factory-provided adjustment is done via at orifice before the directional valve and /or over the spring in the pressure compensator.

F S 10 E - ID - ST - WE - 24DG

Name

F = Function module

Type of control

S = On/Off

P = Proportional

Nominal flow l/min

10 = 10 l/min (up to 70 l/min On/Off, up to 35 l/min Prop)

Main spool valve parts

E = E - spool Parts-in-body

J = J - spool Parts-in-body

W = W - spool Parts-in-body

D = WK08D Solenoid spool valve

ED = E - Spool Parts-in-body special - needle)

Upstream equipment*

O = without

BL = orifice

SD = needle valve DV or SD

SR = Flow regulator SRE

ID03 = Individual pressure compensator DWV08

- (03 = spring force)

RV = Check valve

} only On/Off

Load-side equipment (single)*

O = without

RP = Check valve RPDR

WS = Solenoid poppet valve WS...

Wk = Solenoid spool valve WK...

ID = Individual pressure compensator DWV08 (only Prop.)

SD = needle valve DV or SD

RV = Check valve Rv:..

ST = Flow divider ST...

SB = Counter balance valve SBVE... or RS...

DL = Accumulator charging valve DLHS...

AK = Anti-cavitation valve with integ. PR Function
(raise values for Max. pressure relief)

UV = Umschaltvalve EBS 6/2-WK10-01

PR = Pressure relief valve PR4E

HS = Hub-Senkmodule

*(Achtung: bei mehrfacher Equipment will be the jew.

single valves nacheinander genannt, bei doppelter

Equipment eines valves wird vorher a „2“ gesetzt)

Additional information

WE = 4WE Aufbauschieber

SS = floating position

CP = Stopfen (cavity plug), LH, DS, HD, MA

IS = Individualpressure compensator seitlich

Coil assembly (on/off or prop. possible)

12DG = 12 Volt DC current with DIN connector to EN 175301-803

24DG = 24 Volt DC current with DIN connector to EN 175301-803

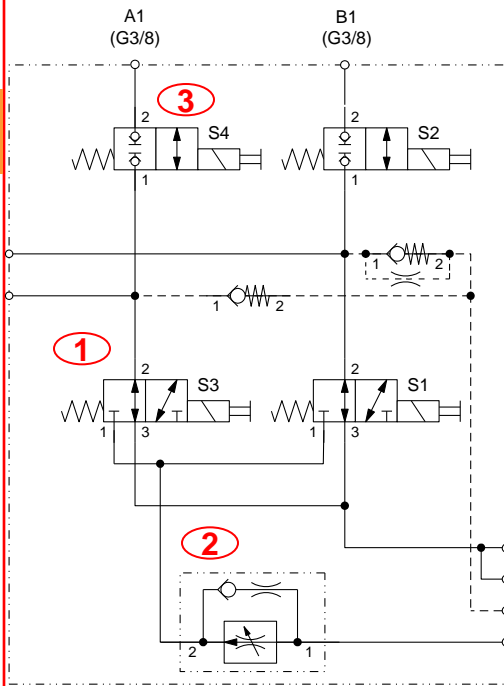
12PG = 12 Volt proportional with DIN connector to EN 175301-803

24PG = 24 Volt proportional with DIN connector to EN 175301-803

Pre-selection modules

Model code

Example:



W S 40 E - BL - RP - SS - 24DG

Name _____

W = Pre-selection modules

Equipment _____

S = On/Off
P = Proportional

Nominal flow in l/min _____

40 = 0 - 40 l/min only Prop. (0 - 80 l/min only On/Off)

Main Spool valve Equipment **1** _____

O = without Spool valve
E = E – Spool Parts-in-body
J = J – Spool Parts-in-body
W = W – Spool Parts-in-body
D = WK08D cartridge valve (only On/Off)

Upstream Equipment* **2** _____

O = without
BL = orifice
SD = Needle valve SD or DV
SR = Flow regulator SRE...
ID = Individual pressure compensator DWV (only Prop.)

Load-side Equipment (single)* **3** _____

O = without
RP = Check valve pilot-to-open RPDR...
WS = Solenoid poppet valve WS08W...
AK = Anti-cavitation valve with value (e.g. 50/150)

*(Attention: if multiple equipment used the corresponding valves single valves are named one after the other, if equipment is double used The number 2 will be printed before)

Additional information _____

SS = floating position

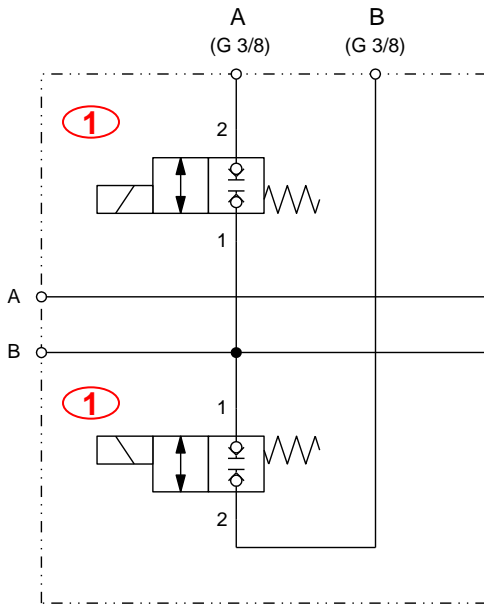
Coil assembly (On/off or prop. possible)

- 12DG = 12 Volt DC current with DIN connector to EN 175301-803
- 24DG = 24 Volt DC current with DIN connector to EN 175301-803
- 12PG = 12 Volt proportional with DIN connector to EN 175301-803
- 24PG = 24 Volt proportional with DIN connector to EN 175301-803

Cylinder Function modules

Model code

Example:



S 02 - 01 - W19 - SS - 24DG

Name

S = cylinder function module

Max. possible Equipment for poppet valves

02 = 2 poppet valves
 04 = 4 poppet valves
 06 = 6 poppet valves
 08 = 8 poppet valves
 10 = 10 poppet valves

Real Equipment poppet valves

01 = 1 poppet valve (1 up to 10 p. possible) (s. point before)

On choice poppet valves symbol, with literature sing behind

W = normally closed, both sides
 V = normally open, both sides
 Z = normally closed
 ZR = normally closed, with backflow
 Y = normally open
 YR = normally open, with backflow

Option: (only at certain modules possible)

SS = floating position

Coil assembly (only On/Off possible)

12DG = 12 Volt DC current with DIN connector to EN 175301-803
 24DG = 24 Volt DC current with DIN connector to EN 175301-803

Inlet module Standard

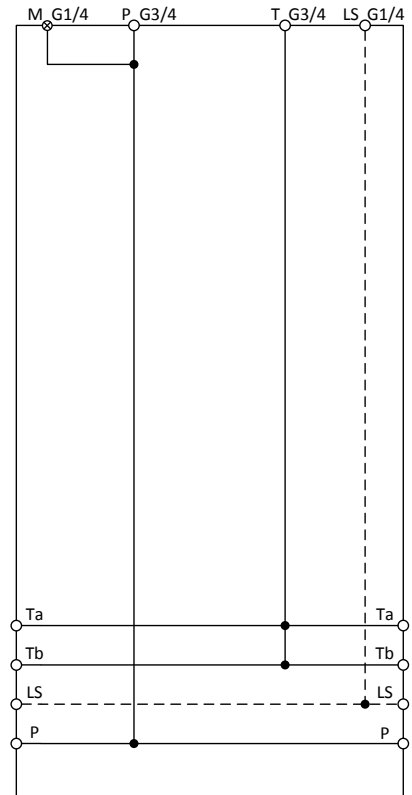
E2 O

Part no. 3461934



Width 49 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 100 \text{ l/min}$



Function

The Inlet module represents a direct supply in-line loads. By the implementation of an orifice a LS-discharge could optionally be added. A flanging-on of Function modules at both sides is possible.

Specifications

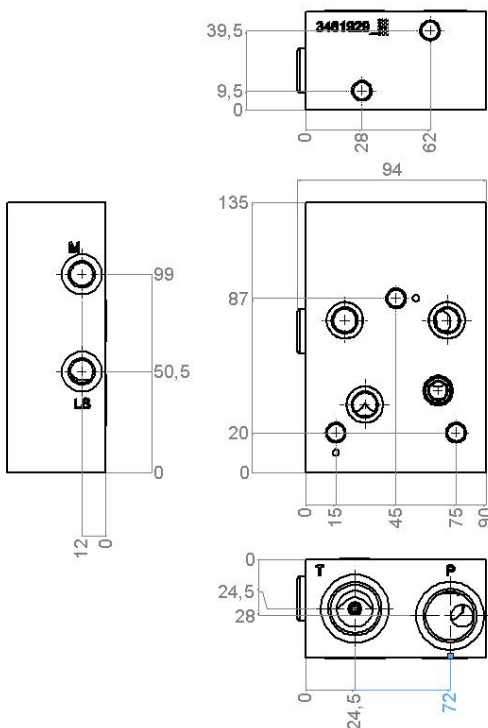
Operating pressure: max. 250 bar
 Nominal flow: max. 100 l/min
 Media operating temp. range: -20°C up to +100°C
 Ambient temperature range: -20°C up to + 60°C
 Filtration: Class 21/19/16 according to ISO4406 or cleaner

Ports: P, T: G 3/4"
 M, LS: G 1/4"

Basic configuration valves: none

Fixation

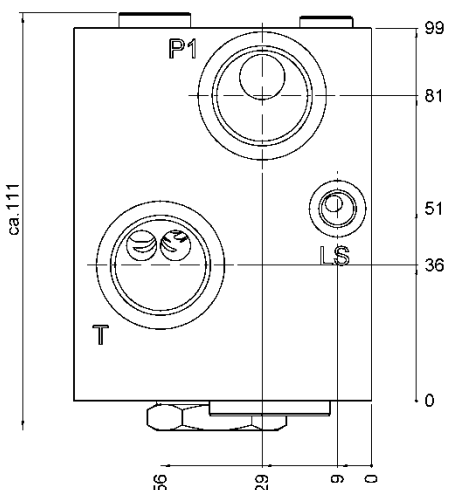
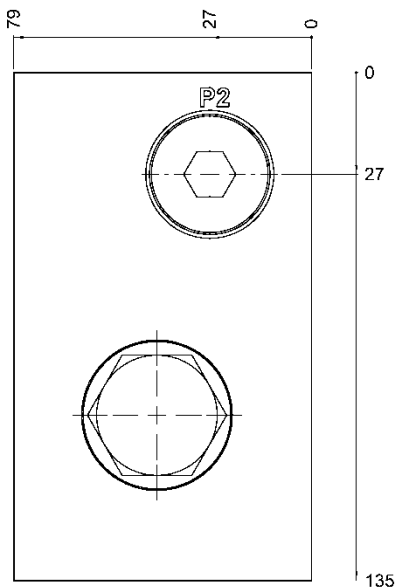
2x M8 on the bottom of the module for the fixation of the system in the machine
 3x M10 to hook-on further Function- or Main-load modules





Width 99 mm

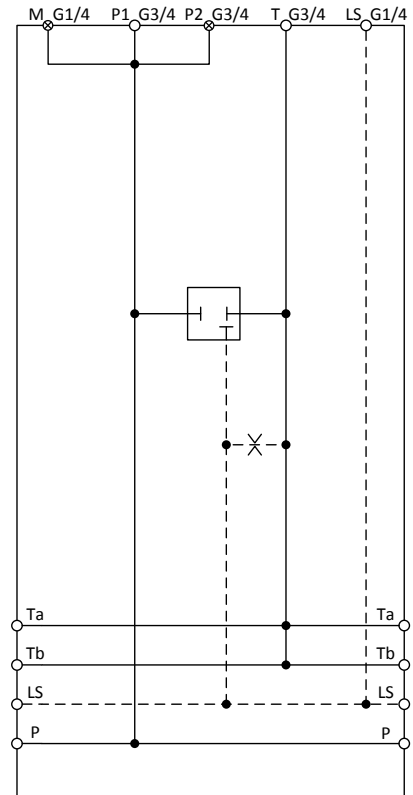
$P_{max} = 250 \text{ bar}$
 $Q_{max} = 100 \text{ l/min}$



Inlet module Stand plus

E2 O/O-O

Part no. 3420487



Function

The Inlet module represents a LS-pressure depending supply of loads. A cavity plug as standard is build-in. The module may optionally be equipped with a pressure compensator. By the help of this the highest pressure will always be at disposal. If there are no loads active there will be at unpressurized flow corresponding to the pressure compensator. A flanging-on of Function modules at both sides is possible.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 100 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves: Standard = Plug without Function
 on choice: pressure compensator DWM12121Z...

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without detent, with/without damping and different pressure differentials see brochure DWM12121Z)

Ports: P1, P2, T: G 3/4"
 M, LS: G 1/4"

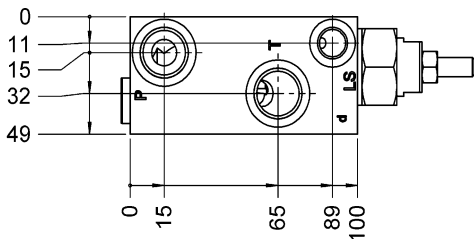
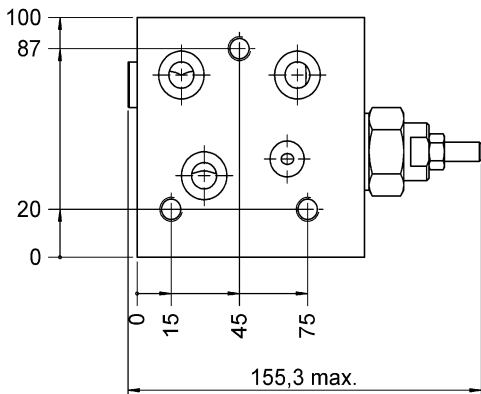
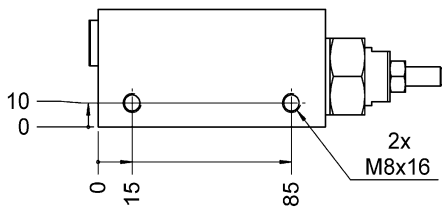
Fixation

2x M8 on the bottom of the module for the fixation of the system in the machine
 3x M10 to hook-on further Function- and Main load modules



Width 49 mm

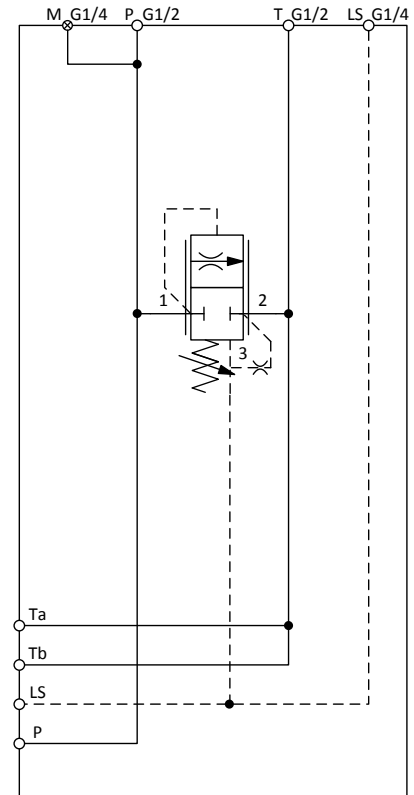
$P_{max} = 250 \text{ bar}$
 $Q_{max} = 100 \text{ l/min}$



Inlet module with pressure compensator

E1 BD13/200-O/O-O

Part no. 3366221



Function

The inlet module with pressure compensator represents a LS pressure depending supply of loads. Hereby always the highest pressure required will be provided. If there are no loads active there will be at unpressurized flow corresponding to the pressure compensator. A flanging-on of Function modules at one side is possible.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 100 l/min
Nominal pressure differential:	13 bar
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner
Basic configuration valves:	pressure compensator DWM12121ZB-31-C-N-13

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without detent, with/without damping and different pressure differentials see brochure DWM12121Z)

Ports: P, T: G 1/2"
M, LS: G 1/4"

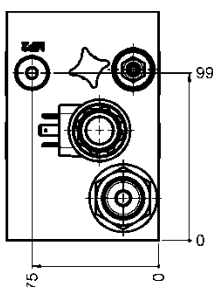
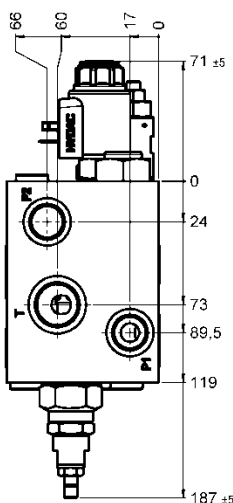
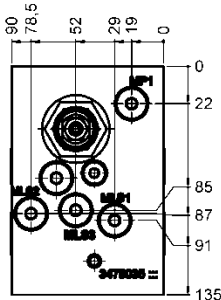
Fixation

2x M8 on the bottom of the module for the fixation of the system in the machine
3x M10 to hook-on further Function- and Main load modules



Width 90 mm

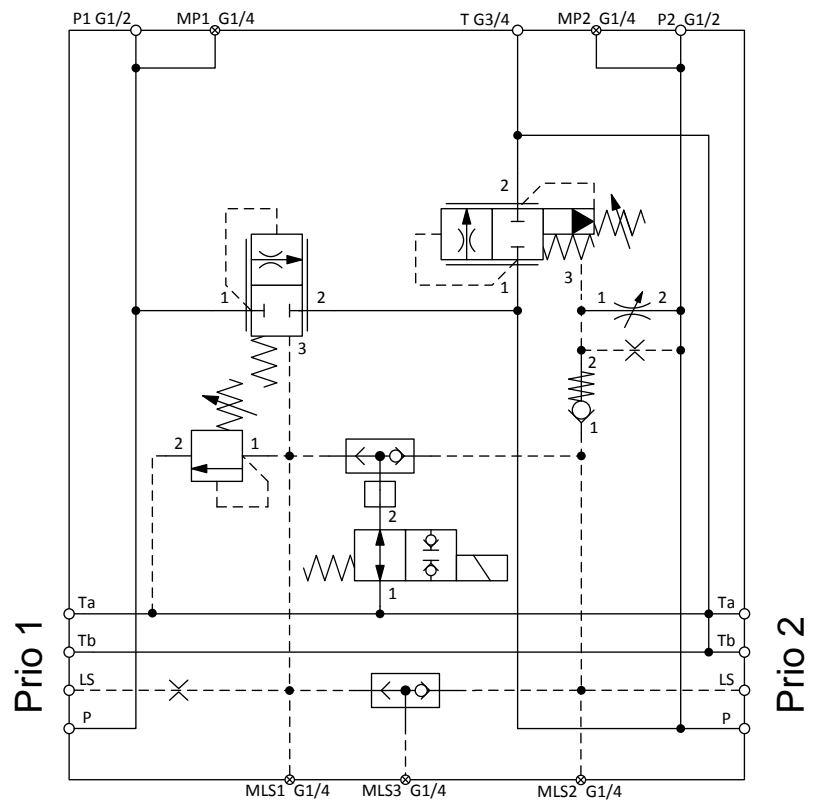
$P_{max} = 250 \text{ bar}$
 $Q_{max} = 120 \text{ l/min}$



Inlet module 2 priorities, universal application E2 P2ZD8/O-DD14/170-WS-UN-XXDG

Part no. 3543195 12 Volt

Part no. 3543196 24 Volt



Function

The inlet module for two priorities supplies subsequent loads LS depending in the first and second priority. The loads (no steering!) could be flanged-on both sides of the module and are supplied by the corresponding pressure compensator in priority. Therefore the highest pressure required will be provided. If there are loads of the first priority active, only the flow which is not needed in the first priority will be provided to the loads in the second priority. The protection is done by a separate pressure relief valve. If there are no loads in the first priority active the complete flow is provided to loads in the second priority. The supply and protection is done via a pressure compensator with integrated relief function. If there are no loads active there will be at unpressurized flow corresponding to both pressure compensators. The solenoid valve is being switched to detent a pressure in the LS-line very fast. A flanging-on of Function modules at both sides is possible.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. je 60 l/min at P1 and P2
Nominal pressure differential:	Prio1 = 8 bar, Prio2 = 14 bar
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner
Basic configuration valves:	Pressure relief valve PR4E-01X-200V180 (Broch. 5.161)
on choice:	Pressure compensator DWM12121Z... (Prio 1) DWM12121ZD-23-C-V-14-230V170 (Prio 2)

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without detent, with/without damping and different pressure differentials see brochure DWM12121Z)

Ports:	P1, P2:	G 1/2"
	T:	G 3/4"
	MLS1, 2, 3 MP1, 2:	G 1/4"

Fixation

4x M8 on the bottom of the module /
 3x M10 to hook-on further Function- and Main load modules

Inlet module with pressure relief- and circulation valve

E2 DB-WS-XXDG

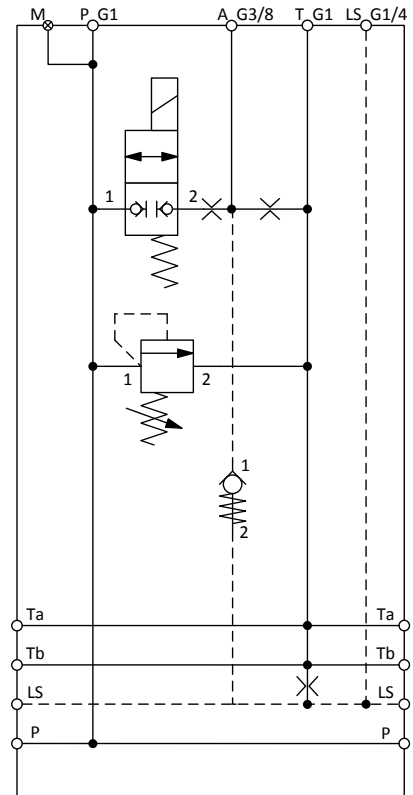
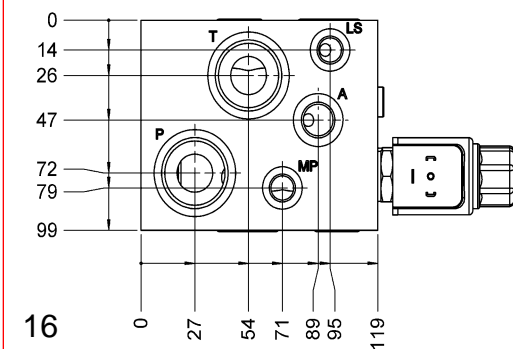
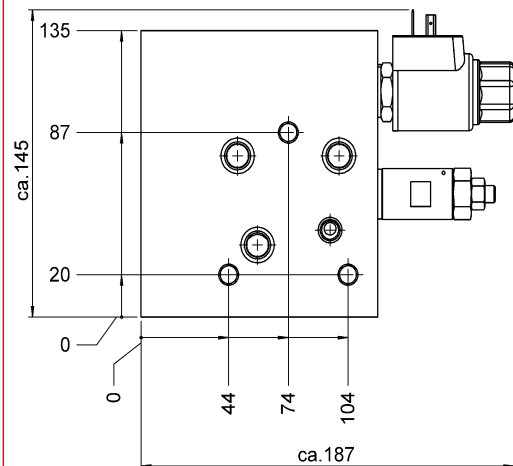
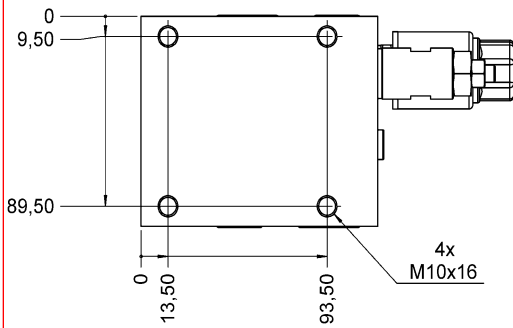
Part no. 3540188 12 Volt

Part no. 3540186 24 Volt



Width 99 mm

P_{max} = 250 bar
Q_{max} = 100 l/min



Function

The Inlet module for variable pumps (LS-pumps) represents a constant supply of loads with the corresponding flow. For the safety a pressure relief valve is installed. at integrated solenoid poppet valve supplies a load at Port A or can switch to unpressurized flow for heating up the oil in the system (Colt start phase). A flanging-on of Function modules at both sides is possible.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 100 l/min
Nominal pressure differential:	13 bar
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:

- Pressure relief valve
PR4E-01X-350V280 (Broch. 5.161)
- on choice:
- Parts-in-body Check valve RV06- 2/2
- Solenoid Poppet valve WSM06020W-01-C-V...
(Broch. 5.949 - other symbols V, Z, ZR, Y, YR s. Model code)

Ports: P, T:	G 1"
A:	G 3/8"
M, LS:	G 1/4"

Fixation

4x M10 on the bottom of the module for the fixation of the system in the machine
3x M10 to hook-on further Function- and Main load modules at both sides

Inlet module with Filter

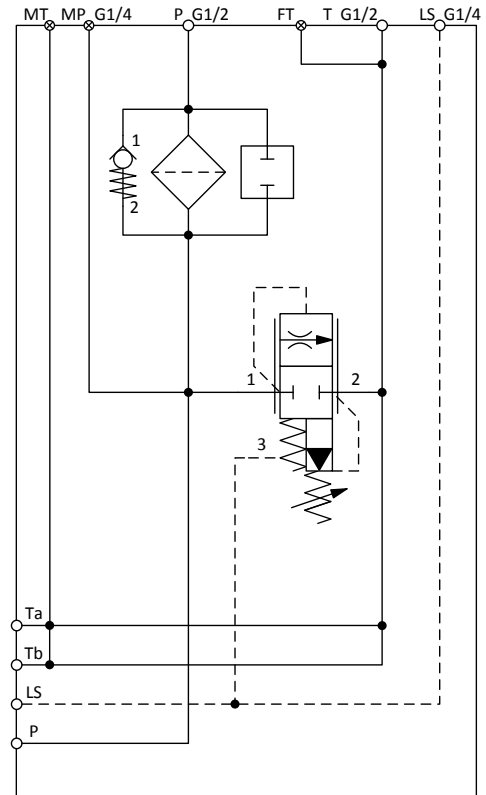
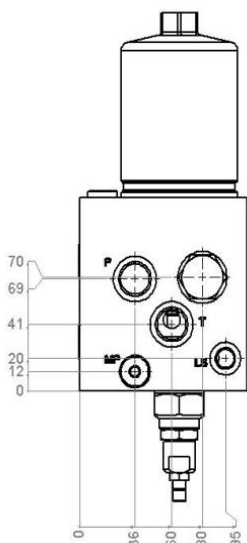
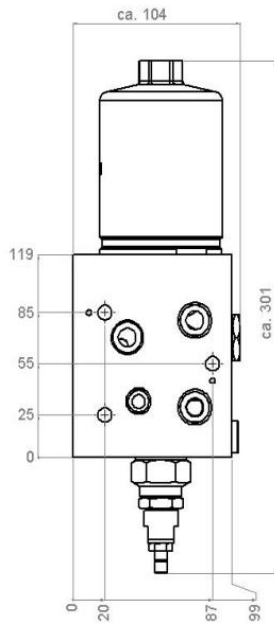
E1 DD10/200-FZ

Part no. 3442121



Width 99 mm

$P_{max} = 220 \text{ bar}$
 $Q_{max} = 100 \text{ l/min}$



Function

The inlet module represents a LS pressure depending supply of loads. The oil for these loads is filtered upstream. If there are no loads active there will be at unpressurized flow corresponding to the pressure compensator. Optionally it is possible to built-in a pressure switch beside the filter. A flanging-on of Function modules at one side is possible.

Specifications

Operating pressure:	max. 220 bar
Nominal flow:	max. 100 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:	- Filterset DF BN/HC 60 SET 10W1.0 (Broch. 7.200.11)
	- Check valve RV08A-01-C-N-70 (Broch. 5.912)
on choice:	- Pressure compensator DWM12121Z...D-02-C-V-10-230V/200

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without detent, with/without damping and different pressure differentials - see brochure DWM12121)

- pressure switch

Ports:	P, T:	G 1/2"
	MP, LS, MT, FT:	G 1/4"

Fixation

2x M8 on the bottom of the module for the fixation of the system in the machine
 3x M10 to hook-on further Function- and Main load modules

Inlet module with priority switch and two pressure circuits

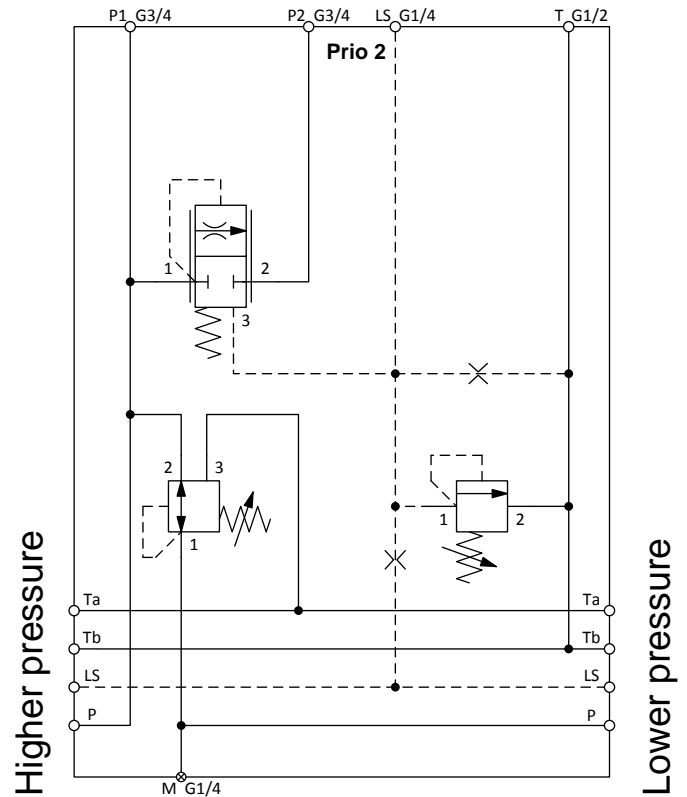
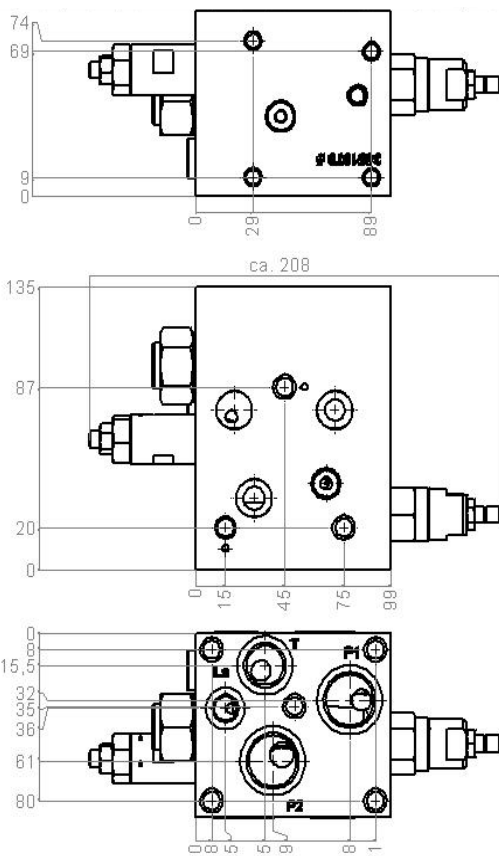
E2 P2 ZD8-DR-DU

Part no. 3459383



Width 88 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 100 \text{ l/min}$



Function

The Inlet module represents a LS- preference switch (P-in, P-out) with two different supply pressures at both sides of the module. The module system is supplied in first priority over the pressure compensator (here 8 bar) before the loads at port P2. A hosing can be done via the flange-plate or directly. Internally of the Inlet module the left side will be supplied in priority of 1 up to 175 bar. After this the supply for the right side is realized. Here the maximal pressure is limited by a pressure reducing valve to 100 bar. If there are no loads active, there is at unpressurized flow corresponding to the pressure compensator. A flanging-on of Function modules at one side is possible.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 100 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:

- Pressure relief valve
PR4E-01X-330V190 (Broch. 5.161)
- Pressure reducing valve
DR10P-01-C-N-180V (Broch. 5.982)
- on choice:
- Pressure compensator DWM12121Z...-33-C-V-14

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without detent, with/without damping and different pressure differentials - see brochure DWM12121)

Ports:	P1, P2:	G 3/4"
	T:	G 1/2"
	M, LS:	G 1/4"

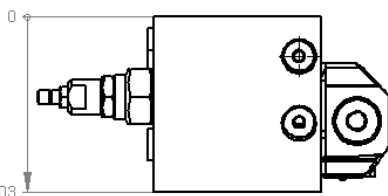
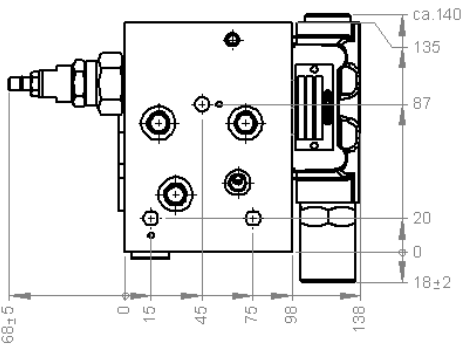
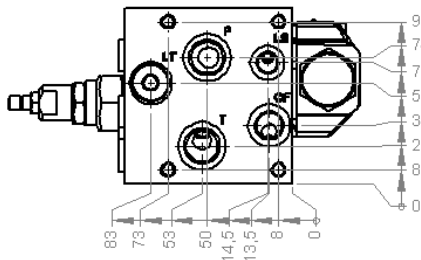
Fixation

4x M8 on the bottom of the module for the fixation of the system in the machine
 5x M10 for the fixation of a flange-plate with hosing
 3x M10 to hook-on further Function- and Main load modules (both sides)



Width 103 mm

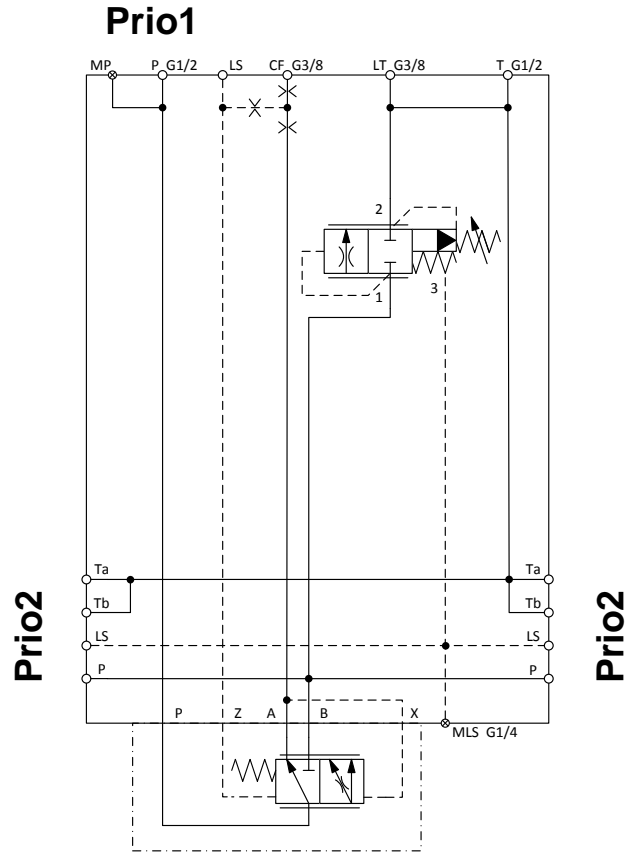
$P_{max} = 250 \text{ bar}$
 $Q_{max} = 100 \text{ l/min}$



Inlet module

E2 P2 LV DD10/200

Part no. 3791535



Function

The Inlet module represents a prioritized supply of a load – preferably a steering at port CF. The modules which can be flanged-on both sides will be supplied in second priority. The built-in pressure compensator has an integrated maximal-pressure relief and is not lockable. If there are no loads active, there is an unpressurized flow corresponding to the pressure compensator. A flanging-on of Function modules at both sides is possible.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 100 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:	- Priority valve MPV10-F-10-11x-00 (Broch.)
on choice:	- Pressure compensator DWM12121ZD-33-C-V-10-230V200

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without detent, with/without damping and different pressure differentials - see brochure DWM12121)

Ports:	P, T:	G 1/2"
	LT, CF:	G 3/8"
	MP, LS:	G 1/4"

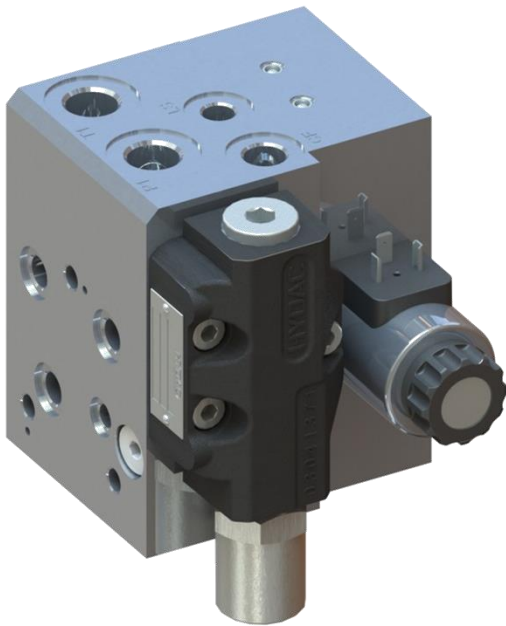
Fixation

4x M8 on the bottom of the module for the fixation of the system in the machine
 5x M10 for the fixation of a flange-plate with hosing
 3x M10 to hook-on further Function- and Main load modules (both sides)

Inlet module with 2 priorities

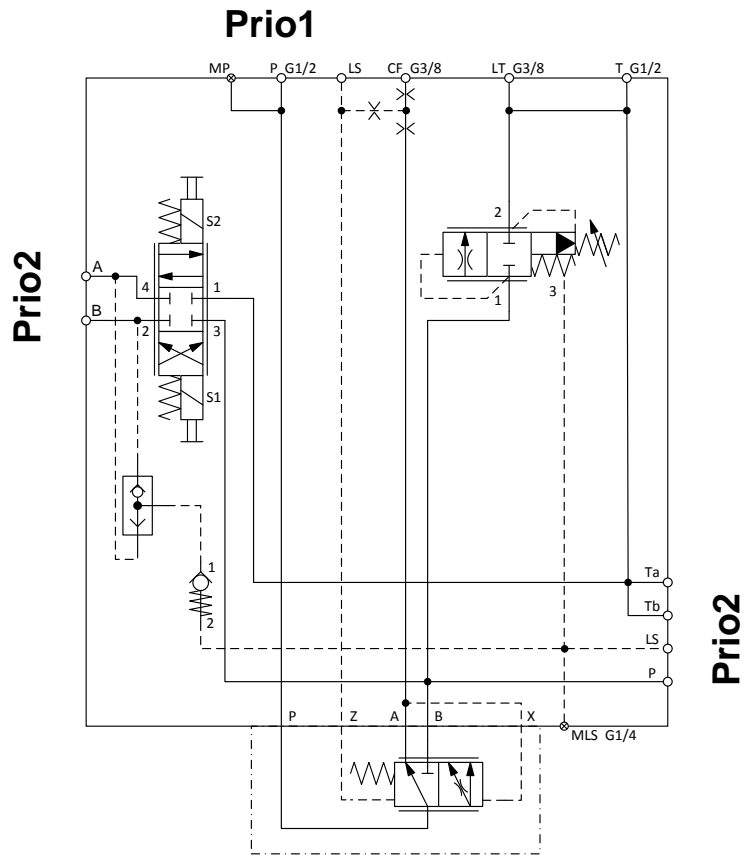
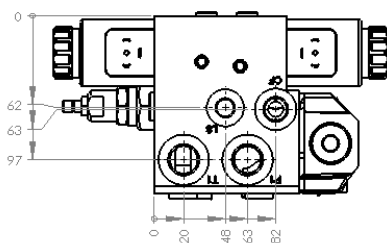
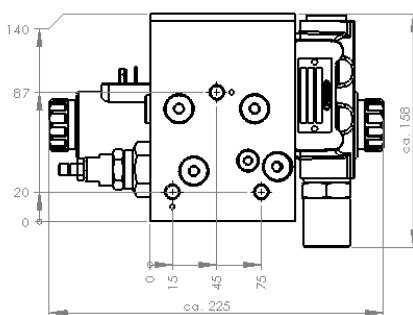
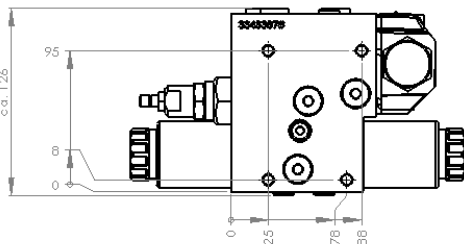
E2 P2 DD06/180-LV-WK-12DG

Part no. 3524117



Width 88 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 100 \text{ l/min}$



Function

The Inlet module represents a prioritized supply of loads – preferably a steering at port CF. The modules which can be flanged-on both sides will be supplied in second priority. The built-in pressure compensator has an integrated maximal-pressure relief and is not lockable. The Cylinder-Function modules flanged-on the left side of the module can proportionally be supplied via the built-in E-spool up to approx. 25 l/min. The Function modules flanged-on the right side of the module can be supplied up to approx. 85 l/min. If there are no loads active, there is an unpressurized flow corresponding to the pressure compensator. A flanging-on of Function modules at both sides is possible.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 100 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner class 18/16/13

Basic configuration valves:

on choice:

- Priority valve
MPV10-F-10-11x-00 (Broch.)
- Parts-in-body 4/3 Spool valve
4WKK10E-41M-01-28...
- Pressure compensator DWM12121ZD-33-C-V-06-230V200

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without detent, with/without damping and different pressure differentials - see brochure DWM12121)

Ports:	P, T:	G 1/2"
	LT, CF:	G 3/8"
	MP, LS:	G 1/4"

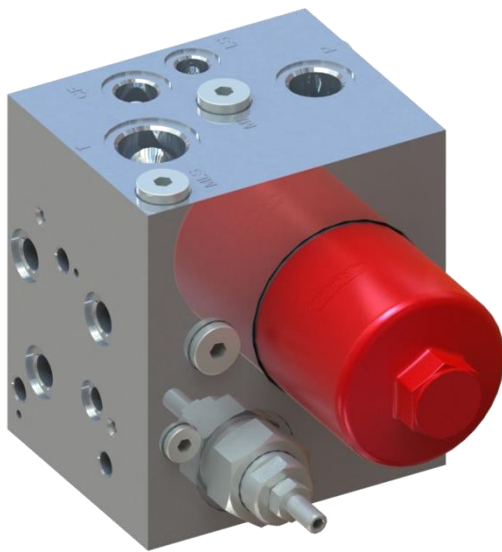
Fixation

4x M8 on the bottom of the module for the fixation of the system in the machine
 5x M10 for the fixation of a flange-plate with hosing
 3x M10 to hook-on further Function- and Main load modules (both sides)

Inlet module with Filter and two priorities

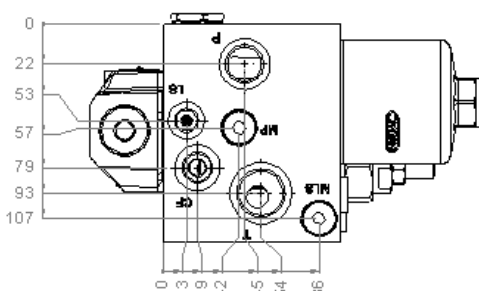
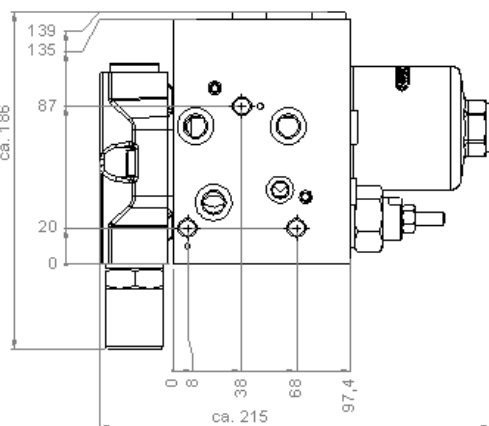
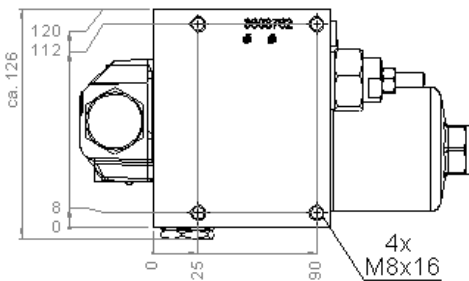
E1 DD08/200-O/O-FZ-LV

Part no. 3606073

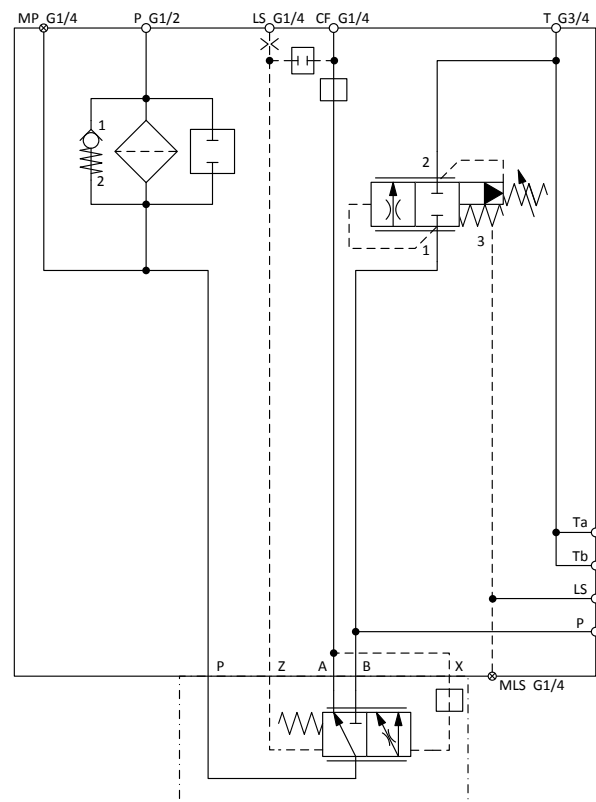


Width 120 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 100 \text{ l/min}$



Prio1



Prio2

Function

The Inlet module represents a LS-dependent supply of loads in in first and second priority. A steering open- or closed center could be adapted at Port CF.

The oil for these loads is filtered upstream. Port CF is supplied in first priority, the Function-modules flanged-on the system are supplied in 2. priority.

The built-in pressure compensator has an integrated maximal-pressure relief and is not lockable. If there are no loads active, there is an unpressurized flow corresponding to the pressure compensator. A flanging-on of Function modules at both sides is possible.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 100 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:

- Priority valve MPV10-F-10-11x-00
- Parts-in-body RVP10-11
- Filter DF BN/HC 60SET 10W1.0
- Clogging indicator VDO A.1

on choice:

- pressure compensator DWM12121ZD-31-C-V-14-230V200

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without detent, with/without damping and different pressure differentials - see brochure DWM12121)

Ports:	T:	G 3/4"
	P:	G 1/2"
	MP, CF, LS:	G 1/4"

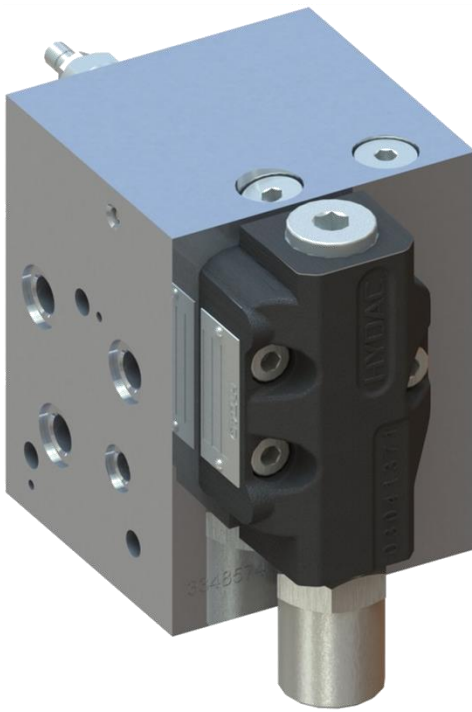
Fixation

4x M8 on the bottom of the module for the fixation of the system in the machine
 3x M10 to hook-on further Function- and Main load modules (both sides)

Inlet module with 3 priorities

E2 P3 LV-ZD13-BD13-PR-WS-12DG

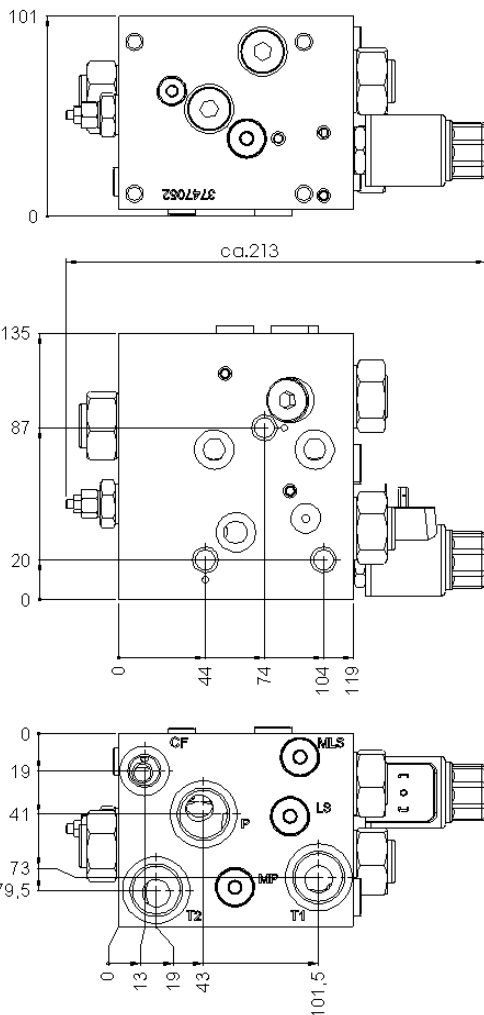
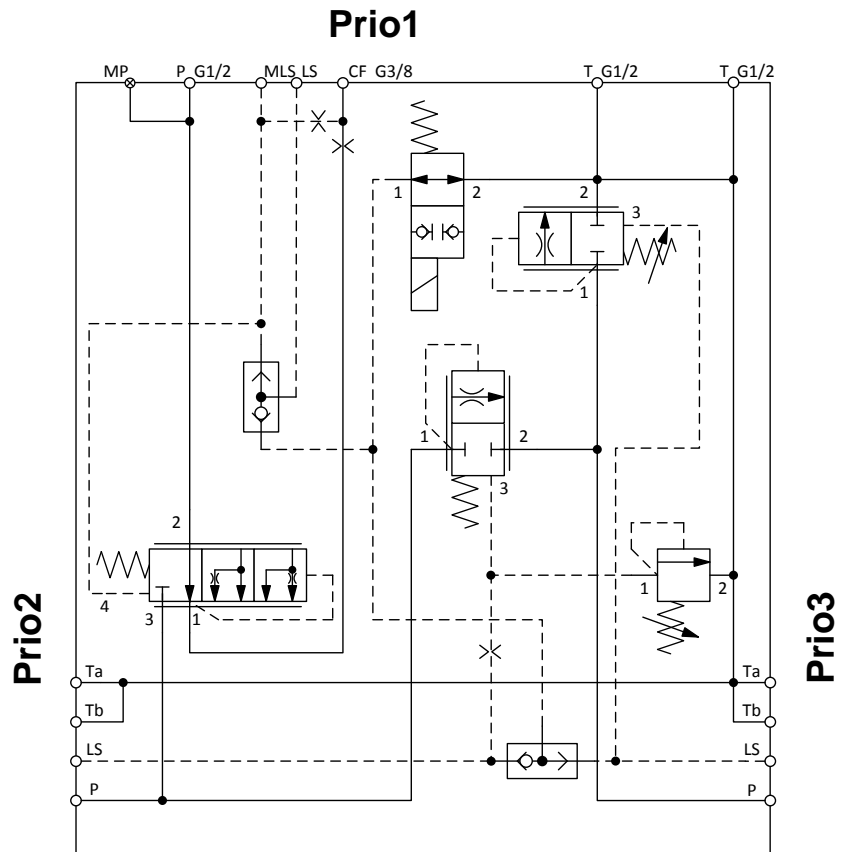
Part no. 3761818



Width 98 mm

$P_{max} = 250 \text{ bar}$

$Q_{max} = 100 \text{ l/min}$



Function

The Inlet module represents a LS-dependent supply of in-line loads in first, second and third priority. In first priority the load at Port CF is supplied with oil - preferably a steering, afterwards the flanged-on modules on the left side of the Inlet module and at least the flanged-on modules on the right side. The 3-way pressure compensator DWP12 is taking care of this job.

The other pressure compensators in the system are responsible for the corresponding supply of modules at both sides.

If there are no loads active, there is an unpressurized flow corresponding to the pressure compensator. A flanging-on of Function modules at both sides is possible

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 100 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:

- Pressure relief valve PR3E-02X
- Solenoid-poppet valve WSM06020V-01...
- Priority valve – pressure compensator DW12P-22-C-N-55

on choice:

- Pressure compensator DWM12121Z-22-C-N-13 (Prio2)
- Pressure compensator DWM12121ZB-31-C-N-13

(The pressure compensator could be delivered as standard, with PR, with/without locking, with/without

detent, with/without damping and different pressure differentials - see brochure DWM12121)

Ports:	P, T:	G 1/2"
	CF:	G 3/8"
	MP, MLS, LS:	G 1/4"

Fixation

4x M8 on the bottom of the module for the fixation of the system in the machine
3x M10 to hook-on further Function- and Main load modules (both sides)

Function module 05 On/Off with RPDR FS05D-SR-2WK-2RP-XXDG

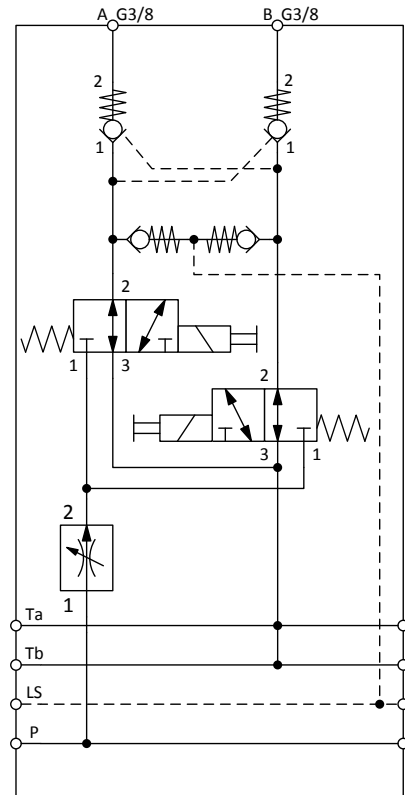
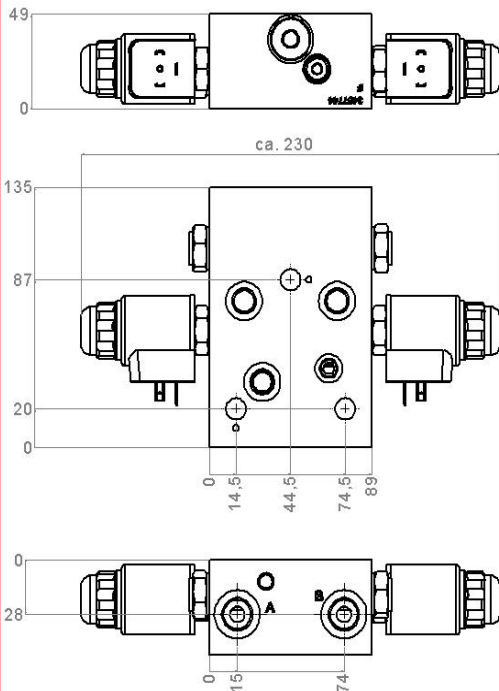
Part no. 3540477 12 Volt

Part no. 3540478 24 Volt



Width 49 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 19 \text{ l/min}$



Function

The Function module FS05D represents an on/off load supply (proportional not possible!). In de-energized mode the load ports are closed by pilot-to open check valves (RPDR). In the place of the standard 4/3 spool valve there are 3/2 spool valves built-in – a cost saving version for the supply up to max. 19 l/min. The LS-signal will be reported via check valves. The inlet flow is controlled by a flow regulator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 19 l/min (up to 19 l/min)
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:

- Check valve RV08A-01-C-V-15 (Broch. 5.912)
- Parts-in-body Check valve RV06
- Parts-in-body Check valve RPDR
- 3/2 Spool valve WK08D-01M-C-V... (Broch. 5.915)
- Flow regulator SRE2-G3/8-01X/5 (5-7,5 l/min) (Broch. 5.118)

on choice:

Ports: A, B: G 3/8"

Fixation

3x $\varnothing 11$ to hook-on further Function- and Main load modules (both sides)

Function module 19 On/Off with RPDR and PR FS19D-SR-2RP-2PR-XXDG

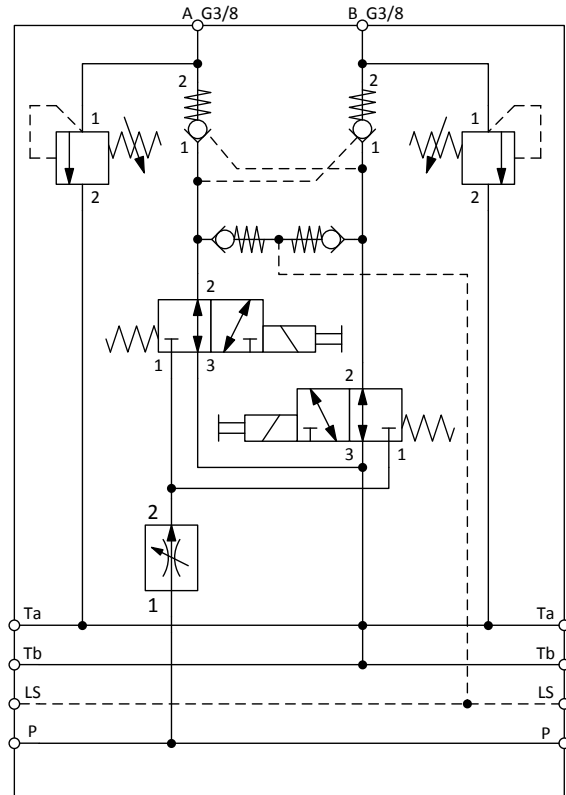
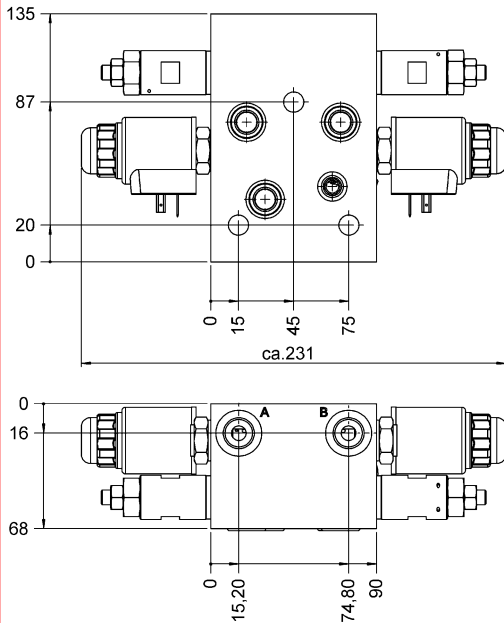
Part no. 3540216 12 Volt

Part no. 3540218 24 Volt



Width 68 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 19 \text{ l/min}$



Function

The Function module FS19D represents a load supply in on/off mode (proportional not possible). Both sides of the load are speed-controlled – with the same control-speed (adjustment by tool). The control is done via a 3/2 directional spool valve. In de-energized mode the load rests on pilot-to-open double check valves. The load ports are protected by corresponding pressure relief valves. The highest load pressure is always reported to the LS-line.

Specifications

Operating pressure: max. 250 bar
Nominal flow: max. 19 l/min (up to 19 l/min)
Media operating temp. range: -20°C up to +100°C
Ambient temperature range: -20°C up to + 60°C
Filtration: Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:

on choice:

- Pressure relief valve
PR4E-01X-200F180 (Broch. 5.161)
- Check valves RV08A-01-C-V-05
(Broch. 5.912)
- Parts-in-body Check valve RV06
- 3/2 Spool valve WK08D-01M-C-V...
(Broch. 5.915)
- Flow regulator SRE2-G3/8-01X/5 (5-7,5 l/min)
(Broch. 5.118)

Ports: A, B: G 3/8"

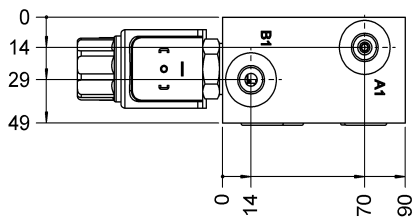
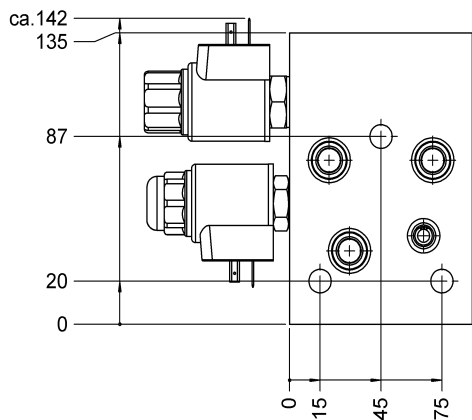
Fixation

3x Ø11 for flanging-on at Inlet modules or further Functions- or Main-load modules



Width 49 mm

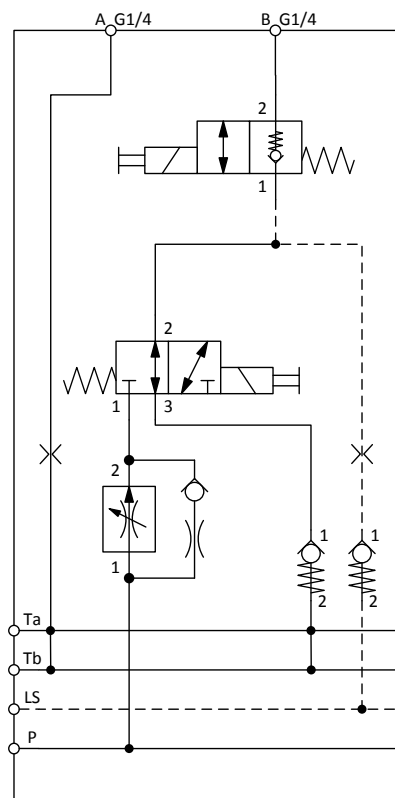
$P_{max} = 250 \text{ bar}$
 $Q_{max} = 10 \text{ l/min}$



Function module 10 On/Off single side FS10D-SR-WS-XXDG

Part no. 3540149 12 Volt

Part no. 3540151 24 Volt



Function

The Function module FS10D single side represents a supply of loads in on/off mode. The load-port B is controlled via a flow control valve and an energized 3/2 solenoid poppet valve. The following 2/2-solenoid poppet valve could be passed through in de-energized mode to the load. The backflow is done via load-port A and is throttled downstream by an orifice. Main application for single acting cylinders.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 10 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:
 on choice:

- Parts-in-body check valve RV06...
- 3/2 Spool valve WK08D-01M-C-N... (Broch. 5.915)
- 2/2 poppet valve WSM06020ZR-01-C-N... (Broch. 5.946)
- Flow regulator SRE1-G1/4-01X (8,0-8,8 l/min (Broch. 5.118)

Ports: A, B: G 1/4"

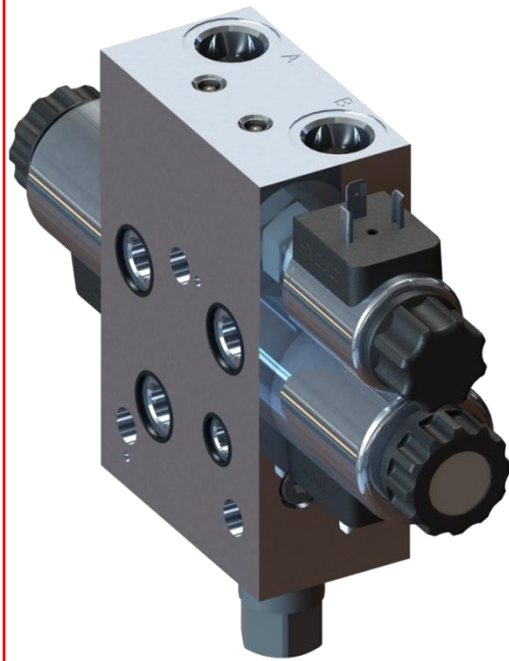
Fixation

3x Ø11 for flanging-on at Inlet modules or further Functions- or Main Load modules

Function module 60 J-Spool On/Off 1xWS-valve FS60J-ID-WS-XXDG

Part no. 3540220 12 Volt

Part no. 3540222 24 Volt



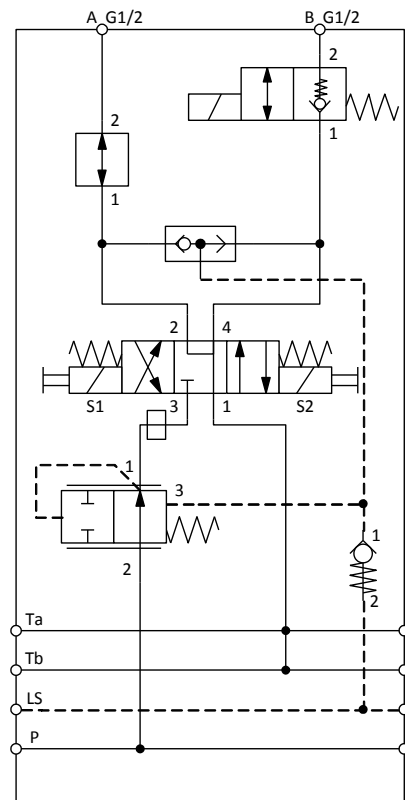
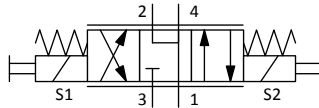
Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max \text{ On/Off}} = 70 \text{ l/min}$

$Q_{max \text{ prop}} = 35 \text{ l/min}$

**Optional:
as Prop.
module**



Function

The Function module FS60J represents a load supply in on/off mode via individual pressure compensator. At parallel operation of several loads with different pressures the pressure compensator is responsible that the flow-rate at the load remains constant. If loads are active the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is guided via the 4/3 directional spool-valve. In de-energized mode the load on port B rests on the 2/2 solenoid poppet valve. (Optional also at port A possible.) The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 70 l/min (orifice size)/ Prop. 35 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner, proportional 18/16/13

Basic configuration valves:

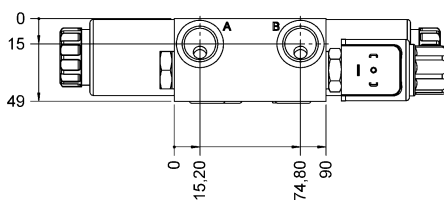
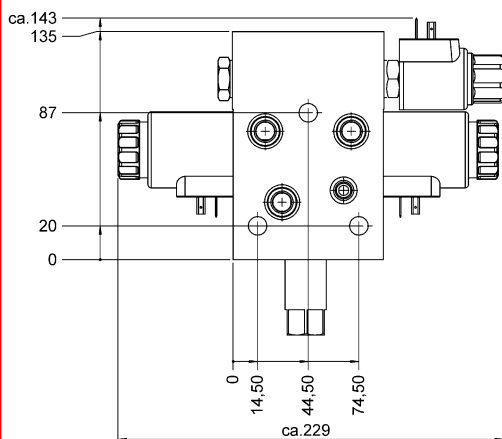
- Parts-in-body check valve RV06
- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)
- Parts-in-body 4/3 Spool valve 4WKK10J-11M... / 4PWKK10J...
- Parts-in-body pressure compensator DWV08-02-08
- Solenoid poppet valve WS08Z-01-C-V... (Broch. 5.907)

on choice:

Ports: A, B: G 1/2"

Fixation

3x Ø11 for flanging-on at Inlet modules or further Functions- or Main Load modules



Function module 20 J-Spool On/Off + Flow regulator + RP

FS20J-ID-2RP-XXDG

Part no. 3540260 12 Volt

Part no. 3540261 24 Volt

**Optional:
as Prop.
module**

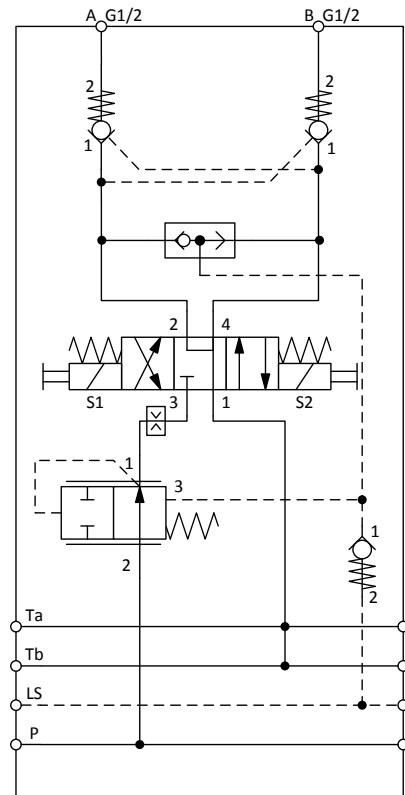
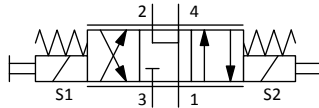


Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max \text{ On/Off}} = 35 \text{ l/min}$

$Q_{max \text{ prop}} = 35 \text{ l/min}$



Function

The Function module FS20J represents a load supply in on/off mode via individual pressure compensator. At parallel operation of several loads with different pressures the pressure compensator is responsible that the flow-rate at the load remains constant. If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is guided via the 4/3 directional spool-valve. In de-energized mode the load on both ports rests pilot-to-open check valves. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:

max. 250 bar

Nominal flow:

max. 35 l/min (orifice size)/ Prop. 35 l/min

Media operating temp. range:

-20°C up to +100°C

Ambient temperature range:

-20°C up to + 60°C

Filtration:

Class 21/19/16 according to ISO4406 or cleaner, proportional 18/16/13

Basic configuration valves:

- Check valve RV08A-51-C-N-05
- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)
- Parts-in-body check valve RV06 -
- Parts-in-body 4/3 solenoid spool valve 4WKK10J-11M... /4PWKK10J...
- Parts-in-body pressure compensator DWV08-02-08

on choice:

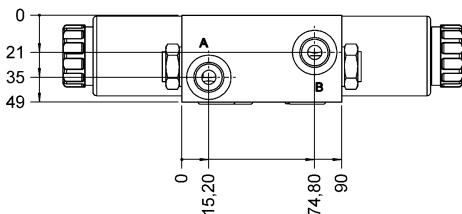
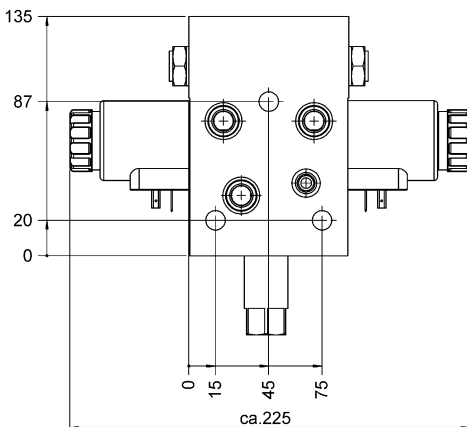
Ports:

A, B:

G 1/2"

Fixation

3x Ø11 for flanging-on at Inlet modules or further Function- or Main Load modules





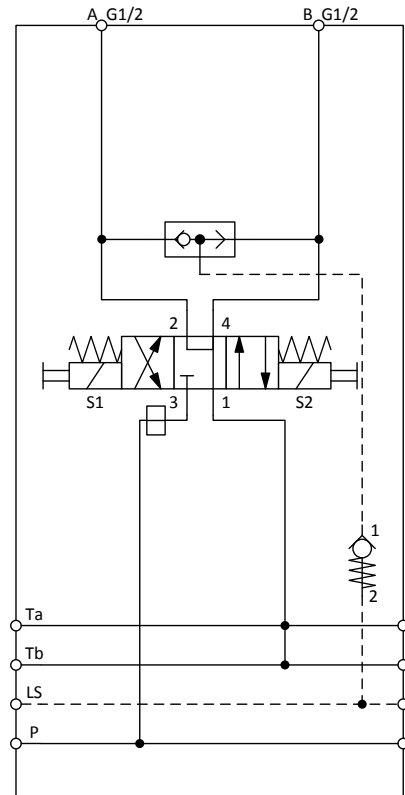
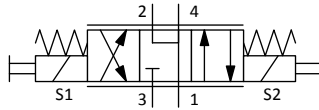
Function module 70 J-Spool SW

FS70J-BL-O-XXDG

Part no. 3342922 12 Volt

Part no. 3540226 24 Volt

**Optional:
as Prop.
module**

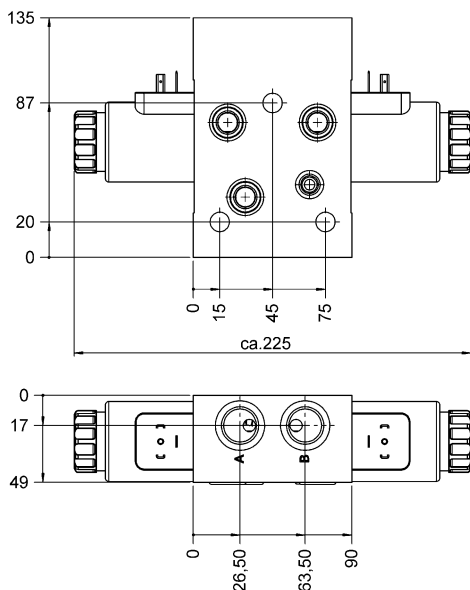


Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max \text{ On/Off}} = 70 \text{ l/min}$

$Q_{max \text{ prop}} = 35 \text{ l/min}$



Function

The Function module FS70J represents a load supply in on/off mode (optional proportional) for a double-acting cylinder via the 4/3 directional spool-valve. In de-energized mode both ports are connected to tank. The inlet flow control is done via orifice – the size determines the flow. The shuttle valve always reports the highest pressure to the LS-line.

Specifications:

Operating pressure:

max. 250 bar

Nominal flow:

max. 70 l/min (orifice size)/ Prop. 35 l/min

Media operating temp. range:

-20°C up to +100°C

Ambient temperature range:

-20°C up to + 60°C

Filtration:

Class 21/19/16 according to ISO4406 or cleaner, proportional 18/16/13

Basic configuration valves:

- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)

- Parts-in-body check valve RV06

- Parts-in-body 4/3 solenoid spool valve 4WKK10J-11M... / 4PWKK10J...

on choice:

Ports:

A, B:

G 1/2"

Fixation

3x Ø11 for flanging-on at Inlet modules or further Function- or Main Load modules

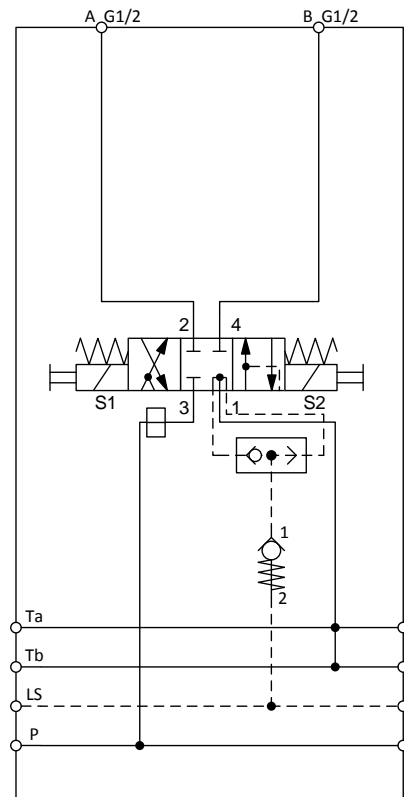
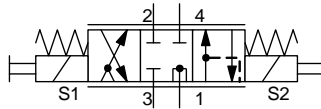
Function module 70 E-Spool SW

FS70E-BL-O-XXDG

Part no. 3378740 12 Volt

Part no. 3540231 24 Volt

**Optional:
as Prop.
module**



Function

The Function module FS70E represents a load supply in on/off mode (optional proportional) for a double-acting cylinder via the 4/3 directional spool-valve. In de-energized mode both ports are closed off from tank. A special LS-pick-up in the spool valve provides that there is no pressure rising at the load. The inlet flow control is done via orifice – the size determines the flow. The shuttle valve always reports the highest pressure to the LS-line.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 70 l/min (orifice size) / Prop. 35 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner, proportional 18/16/13

Basic configuration valves:

- Parts-in-body check valve RV06
- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)
- Parts-in-body 4/3 solenoid spool valve 4WKK10E-21M... / 4PWKK10E...
- orifice M10

on choice:

Ports: A, B: G 1/2"

Fixation

3x Ø11 for flanging-on at Inlet modules or further Functions- or Main Load modules

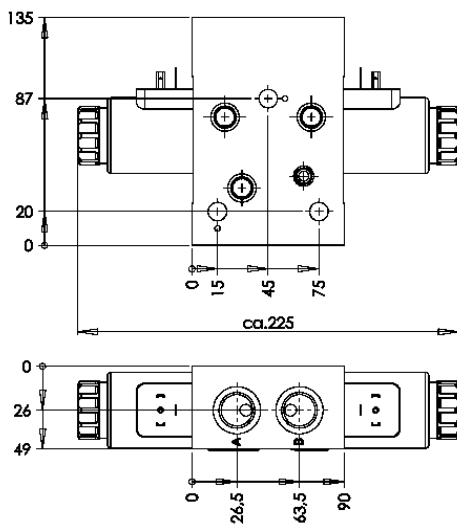


Width 49 mm

Pmax = 250 bar

Qmax On/Off = 70 l/min

Qmax prop = 35 l/min



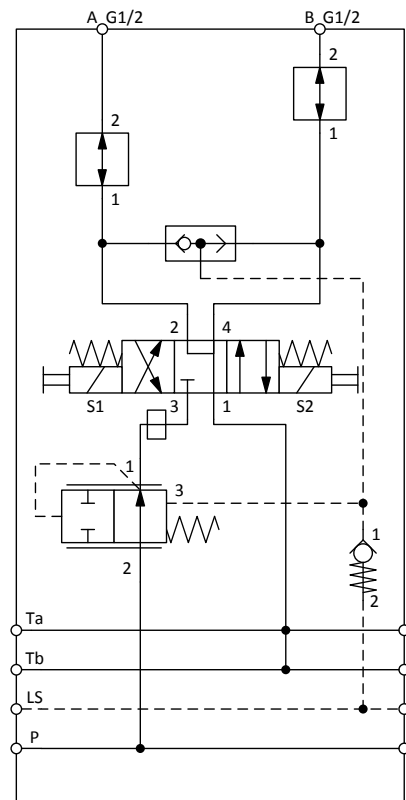
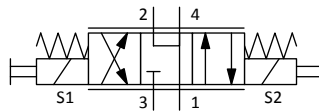


Function module 15 J-Spool On/Off + Flow regulator FS15J-ID-O-XXDG

Part no. 3540233 12 Volt

Part no. 3540230 24 Volt

**Optional:
as Prop.
module**



Function

The Function module FS15J represents a load supply in on/off mode via individual pressure compensator. At parallel operation of several loads with different pressures the pressure compensator is responsible that the flow-rate at the load remains constant. If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 directional spool-valve and a pressure-compensator - orifice combination. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 70 l/min (orifice size)/ Prop. 35 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner, proportional 18/16/13

Basic configuration valves:

- Shuttle change-over valve WVE-R1/8-10 (Broch. 5.173)
- Parts-in-body check valve RV06
- Parts-in-body 4/3 solenoid spool valve 4WKK10J-11M... / 4PWKK10J...
- Parts-in-body pressure compensator DWV08-02-08

on choice:

Ports: A, B: G 1/2"

Fixation

3x Ø11 for flanging-on at Inlet modules or further Functions- or Main Load modules

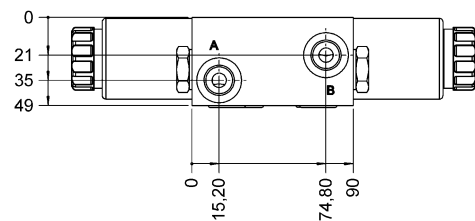
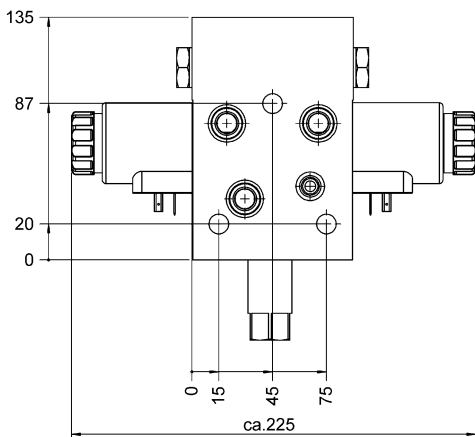


Width 49 mm

Pmax = 250 bar

Qmax On/Off = 70 l/min

Qmax prop = 35 l/min



Function module 35 J-Spool prop

FP35J-ID-O-CP-XXPG

Part no. 3540256 12 Volt

Part no. 3540257 24 Volt



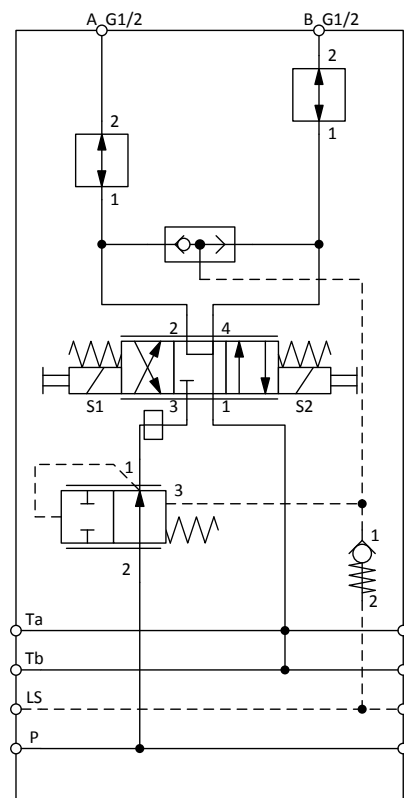
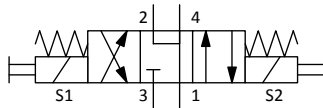
Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max \text{ prop}} = 35 \text{ l/min}$

$Q_{max \text{ On/Off}} = 70 \text{ l/min}$

Optional:
as On/Off
module



Function

The Function module FP35J represents a load supply in proportional mode (optional on/off) via individual pressure compensator. If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 directional spool-valve and a pressure-compensator - orifice combination. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:

max. 250 bar

Nominal flow:

max. 35 l/min (orifice size)/ On/Off 70 l/min

Media operating temp. range:

-20°C up to +100°C

Ambient temperature range:

-20°C up to + 60°C

Filtration:

Class 18/16/13 according to ISO4406 or cleaner

class 21/19/16 for on/off mode

Basic configuration valves:

- Shuttle change-over valve

WVE-R1/8-010 (Broch. 5.173)

- Parts-in-body Check valve RV06

- Parts-in-body 4/3 Proportional-Spool valve

4PWKK10J-11M-01-35... / 4WKK10J

- Parts-in-body pressure compensator

DWV08-02-12

on choice:

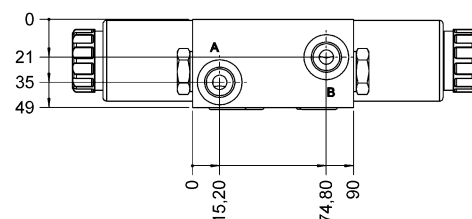
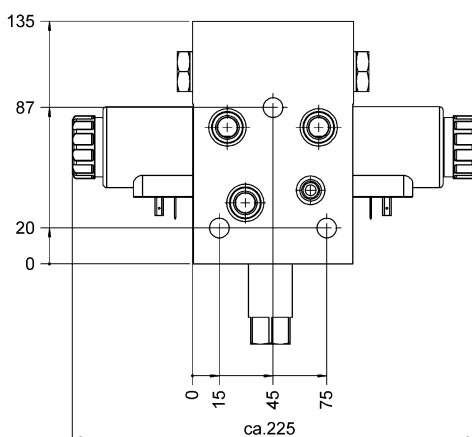
Ports:

A, B:

G 1/2"

Fixation

3x Ø11 for flanging-on at Inlet modules or further Functions- or Main Load modules



Function module 35 E-Spool prop +Antikav FP35E-ID-2AK210/210-XXPG

Part no. 3540416 12 Volt

Part no. 3540418 24 Volt



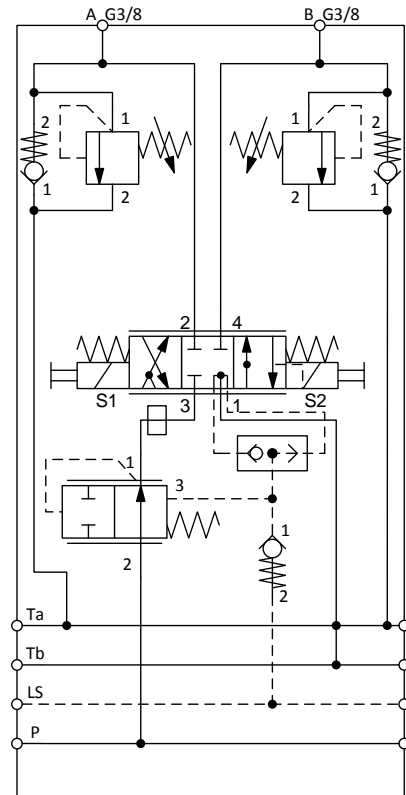
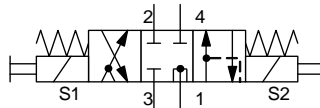
Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max \text{ prop}} = 35 \text{ l/min}$

$Q_{max \text{ On/Off}} = 50 \text{ l/min}$

Optional:
as On/Off
module



Function

The Function module FP35E represents a load supply in proportional mode (optional on/off) via individual pressure compensator. The loads on ports A and B are foreseen with anti-cavitation valves. If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 proportional spool-valve. In de-energized mode both ports are closed off from tank. A special LS-pick-up in the spool valve provides that there is no pressure rising at the load. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 35 l/min (orifice size)/ On/Off 50 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:

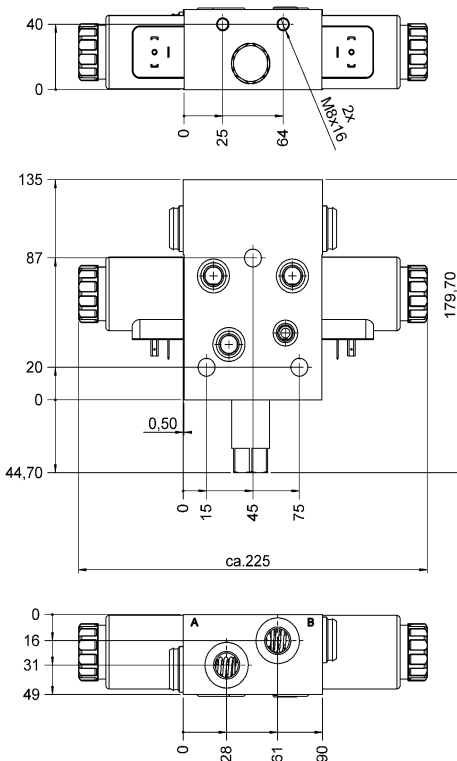
on choice:

- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)
- Parts-in-body Check valve RV06
- Parts-in-body 4/3 Proportional-Spool valve 4PWKK10E-11M-21M-01-30... / 4WKK10E...
- Parts-in-body pressure compensator DWV08-02-08
- PRV + anti-cavitation valve PCE080-210

Ports: A, B: G 3/8"

Fixation

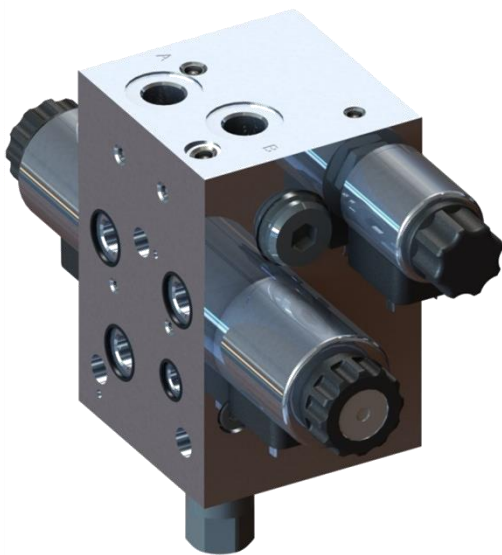
3x Ø11 for flanging-on at Inlet modules or further Functions- or Main Load modules



Function module 35 E-Spool prop +Antikav +floating position FP10E-ID-2AK210/175-SS-XXPG

Part no. 3540421 12 Volt

Part no. 3540423 24 Volt



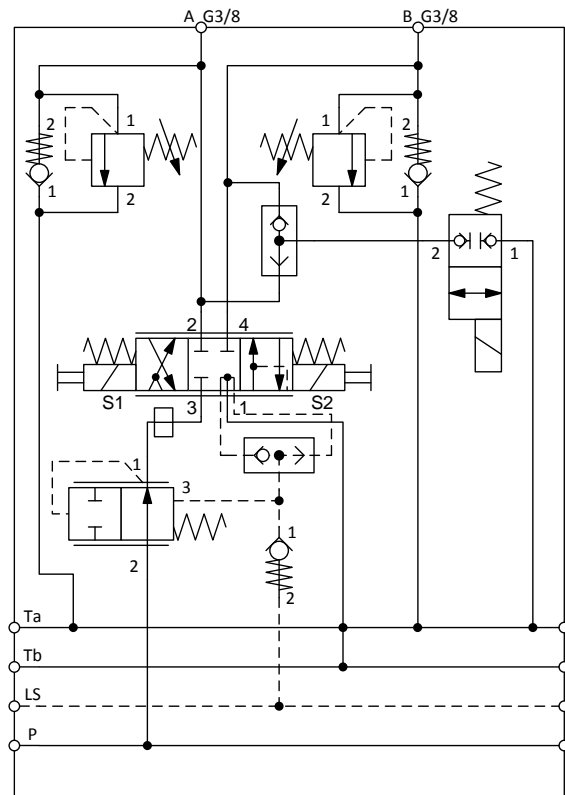
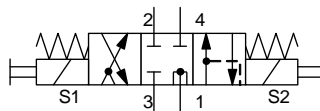
Width 89 mm

Pmax = 250 bar

Qmax prop = 35 l/min

Qmax On/Off = 50 l/min

**Optional:
as On/Off
module**



Function

The Function module FP35E represents a load supply in proportional mode (optional on/off) via individual pressure compensator. The loads on ports A and B are foreseen with anti-cavitation valves. Via a 2/2 solenoid spool valve the pressure relief valves could be bypassed and therefore a floating position is realized. If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 proportional spool-valve. In de-energized mode both ports are closed off from tank. A special LS-pick-up in the spool valve provides that there is no pressure rising at the load. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 35 l/min (orifice size)/ On/Off 50 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 18/16/13 according to ISO4406 or cleaner class 21/19/16 for on/off mode

Basic configuration valves:

- Shuttle change-over valve WVE-R1/8-010 WVE-R1/4 (Broch. 5.173)

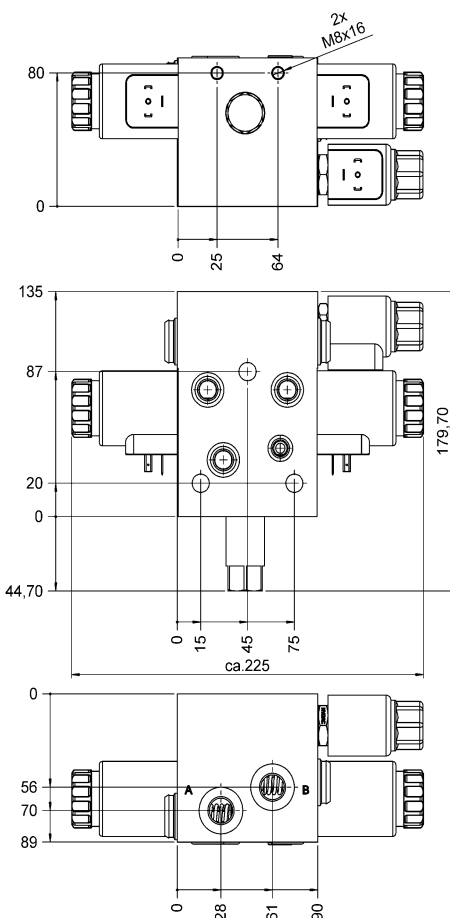
on choice:

- Parts-in-body Check valve RV06
- Parts-in-body 4/3 Proportional-Spool valve 4PWKK10E-21M-02-10... / 4WKK10E...
- Parts-in-body pressure compensator DWV08-03-05
- Solenoid poppet valve WSM06020W-01-C-V... (Broch. 5.949)
- 2x PRV + anti-cavitation valve PCE080-175

Ports: A, B: G 3/8"

Fixation

3x Ø11 for flanging-on at Inlet modules or further Functions- or Main Load modules



Function module accumulator charging 25L

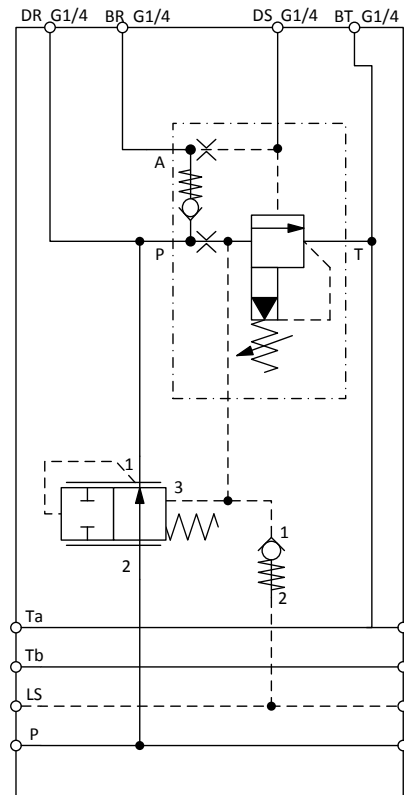
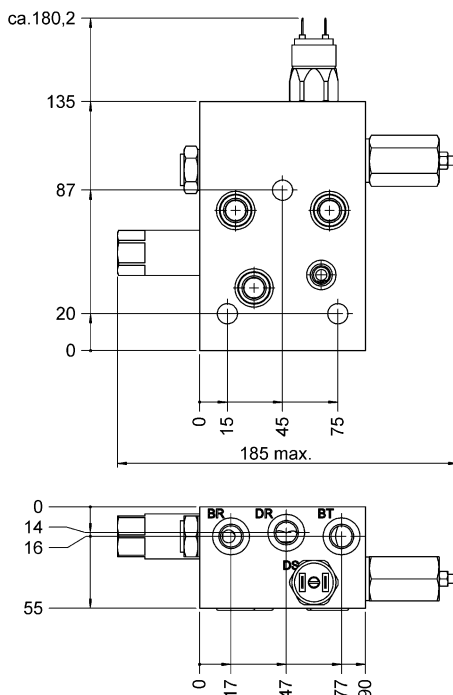
FS25-ID-DL

Part no. 3281293



Width 55 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 25 \text{ l/min}$



Function

The accumulator charging module FS38I serves to load the accumulator at Port BR. The switching is controlled by pressure difference – this means that the switch-on pressure is depending on 12, 16 or 21% (depending on type) on the switch-off pressure. The switch-off pressure hereby is the maximal accumulator pressure. By variation of the orifice D1 in addition with the accumulator charging valve load pressures between 50 and 250 bar are possible.

The orifice D2 determines the nominal flow, the loading and therefore the loading speed. The accumulator charging switch reports the accumulator pressure to the LS-line. Via the pressure compensator the accumulator is loading. By reaching the switch-off pressure the DLH opens and the pressure on the LS-line diminishes, hereby the pressure compensator closes and there is no more flow to the accumulator. The ports DS and DR are measuring Ports, the Port BT is the tank port at the loads.

Specifications

Operating pressure	max. 250 bar
Nominal flow:	max. 25 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner
Basic configuration valves:	- Check valve RV08A-01-C-V-05 (Broch. 5.912)
on choice:	- Parts-in-body pressure compensator DWV08-01-08
	- Accumulator charging valve DLHS... (e.g. DLHS-21/250-150)

Ports: BR, DR, DS, BT: G 1/4"

Fixation

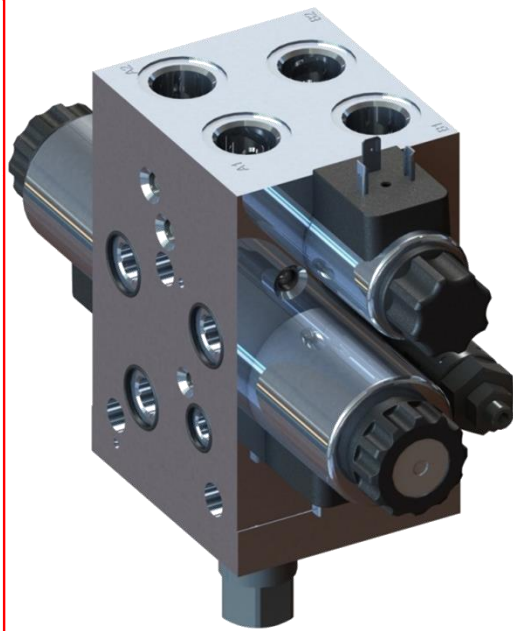
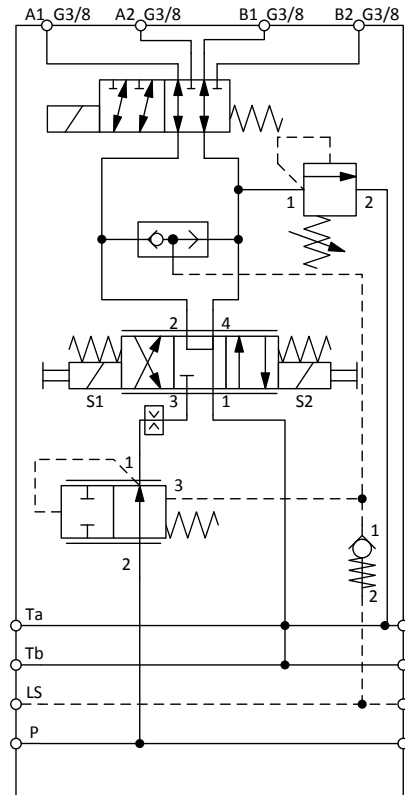
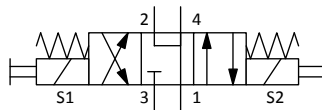
3x Ø11 for flanging-on at Inlet modules or further Functions- or Main Load modules

Function module 32 J-Spool prop Umschalt FP32J-ID-UV-PR-XXPG

Part no. 3540456 12 Volt

Part no. 3540457 24 Volt

Optional:
as On/Off
module

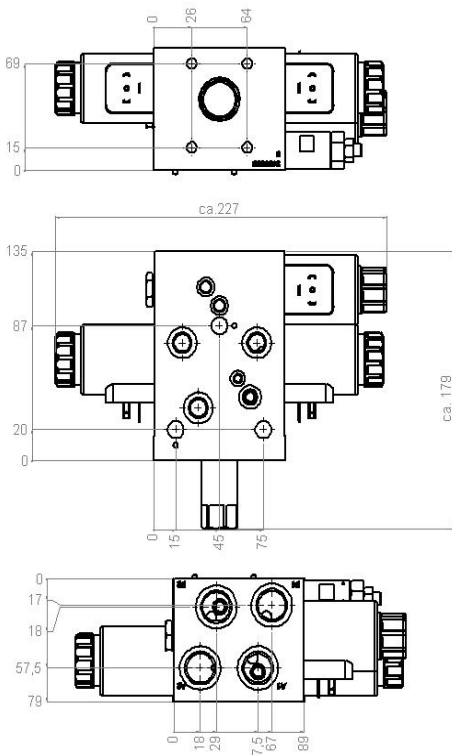


Width 79 mm

$P_{max} = 250 \text{ bar}$

$Q_{max \text{ prop}} = 32 \text{ l/min}$

$Q_{max \text{ On/Off}} = 50 \text{ l/min}$



Function

The Function module FP32J represents a load supply in proportional mode (optional on/off) via individual pressure compensator. The load ports are foreseen with a 6/2 switch-over valve. Therefore two double-acting cylinders could be controlled one after the other. The loads are secured before over-pressure by a pressure relief valve. In de-energized mode the load ports are connected to tank.

If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 directional spool-valve and a pressure-compensator - orifice combination. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 32 l/min (orifice size)/ On/Off 50 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 18/16/13 according to ISO4406 or cleaner class 21/19/16 for on/off mode

Basic configuration valves:

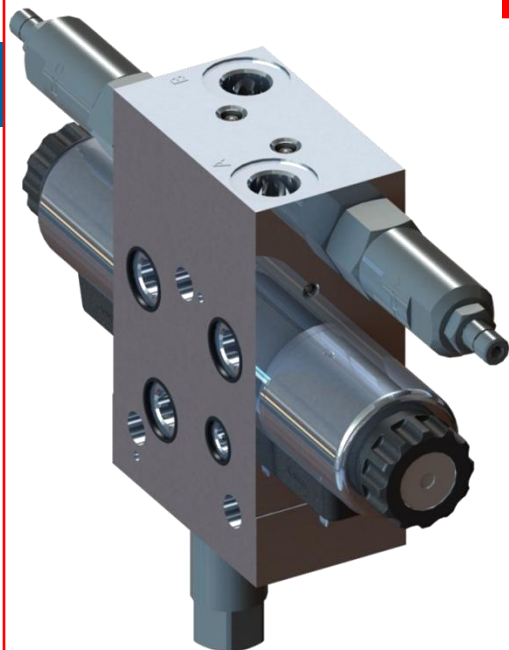
- 6/2 way switch-over valve
- PR4E-01X-200V190 (Broch. 5.161)
- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)
- Parts-in-body Check valve RV06
- Parts-in-body 4/3 Spool valve proportional 4PWKK10J-11M-01-35.../ 4WKK10J...
- Parts-in-body pressure compensator DWV08-02-12
- Parts-in-body 4/2 Spool valve

on choice:

Ports: A1, A2, B1, B2 : G3/8"

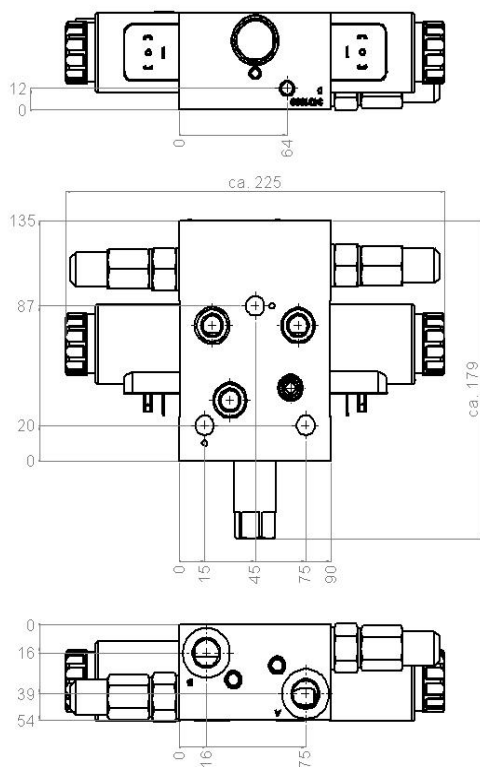
Fixation

4x M6 on the bottom of the module for the fixation of the system in the machine
3x $\varnothing 11$ to hook-on further Function- and Main load modules (both sides)



Width 60 mm

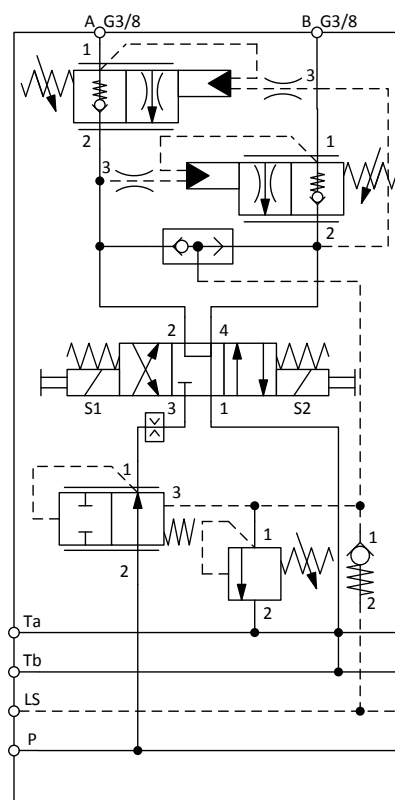
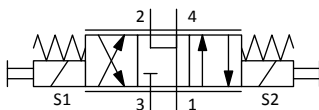
$P_{max} = 250 \text{ bar}$
 $Q_{max} \text{ On/Off} = 35 \text{ l/min}$
 $Q_{max} \text{ prop} = 35 \text{ l/min}$



Function module 10 J-Spool On/Off Hubsenk FS10J-ID-2SB-XXDG

Part no. 3540459 12 Volt
 Part no. 3540460 24 Volt

Optional:
 as Prop.
 module



Function

The Function module FS10J represents a load supply in on/off mode (optional proportional) via individual-pressure compensator. The load ports are equipped with counter balance valves for continuous lift-lowering of loads. These enable a fine control of the load under load. In de-energized mode the load remains on their built-in check valves. An additional built-in pressure relief valve keeps the pressure in the LS-line at a constant level.

If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 directional spool-valve and a pressure-compensator - orifice combination. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 35 l/min (orifice size)/ Prop. 35 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner, proportional 18/16/13

Basic configuration valves:

- Counter balance valve RS08-01-C-V-3-500V (Broch. 5.933)
- Shuttle change-over valve WVE-R1/8 (Broch. 5.173)
- Parts-in-body Check valve RV06
- 4/3 Spool valve 4WKK10J-11M../ 4PWKK10J...
- Parts-in-body pressure compensator DWV08-02-08

on choice:

Ports: A, B: G3/8"

Fixation

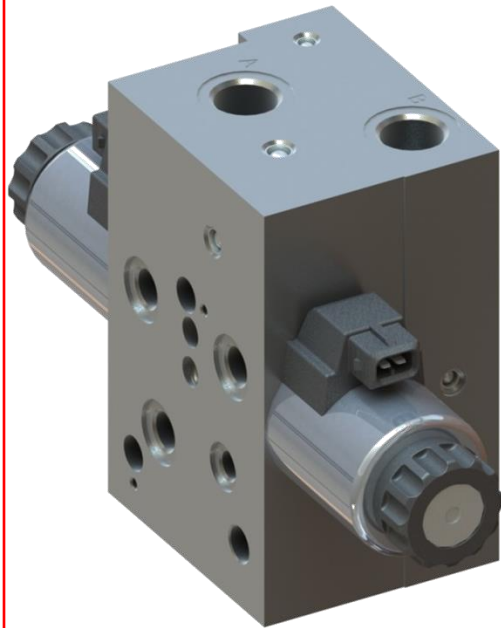
1x M8 on the bottom of the module for the fixation of the system in the machine
 3x $\varnothing 11$ to hook-on further Function- and Main load modules (both sides)

Function module 35 E-Spool prop FP35E-ID-O-24DU

Part no. 3434499 12 Volt

Part no. 4015269 24 Volt

**Optional:
as On/Off
module**

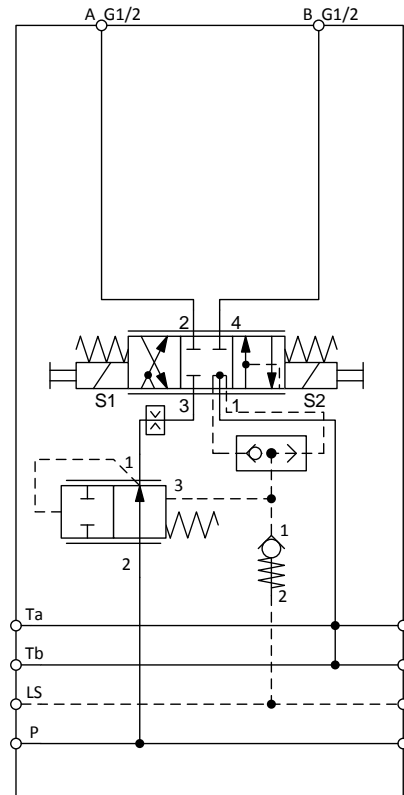
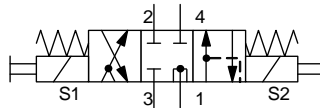


Width 54 mm

$P_{max} = 250 \text{ bar}$

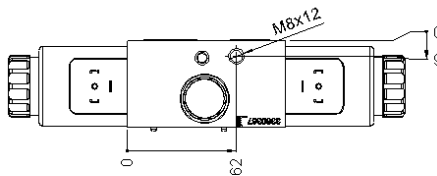
$Q_{max \text{ prop}} = 35 \text{ l/min}$

$Q_{max \text{ On/Off}} = 60 \text{ l/min}$



Function

The Function module FP35E represents a load supply in proportional mode (optional on/off) via individual pressure compensator. If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 proportional spool-valve. In de-energized mode both ports are closed off from tank. A special LS-pick-up in the spool valve provides that there is no pressure rising at the load. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure Compensator.



Specifications

Operating pressure:

max. 250 bar

Nominal flow:

max. 35 l/min (orifice size)/ On/Off 60 l/min

Media operating temp. range:

-20°C up to +100°C

Ambient temperature range:

-20°C up to + 60°C

Filtration:

Class 18/16/13 according to ISO4406 or cleaner

class 21/19/16 for on/off mode

Basic configuration valves:

- Counter balance valve RS08-01-C-V-3-500V (Broch. 5.933)

- Shuttle change-over valve WVE-R1/8 (Broch. 5.173)

- Parts-in-body check valve RV06

- 4/3 Spool valve 4PWKK10J-11M./ 4WKK10J...

- Parts-in-body pressure compensator DWV08-02-08

on choice:

(Annotation: for the assembly on flat surfaces the pressure compensator is mounted at the side)

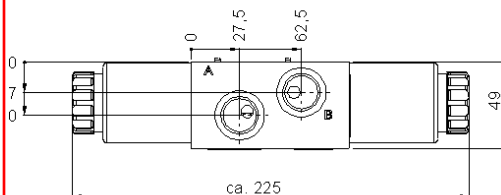
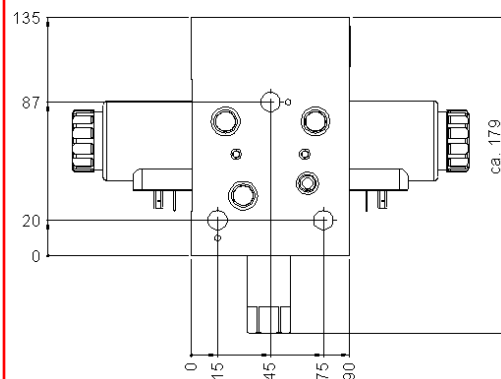
Ports:

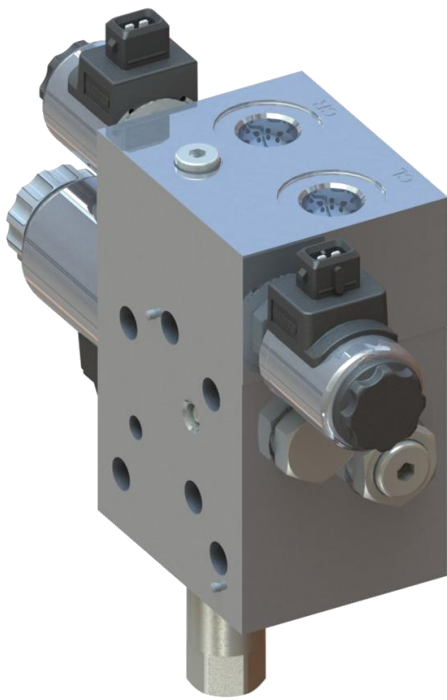
A, B:

G1/2"

Fixation

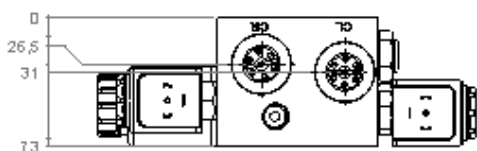
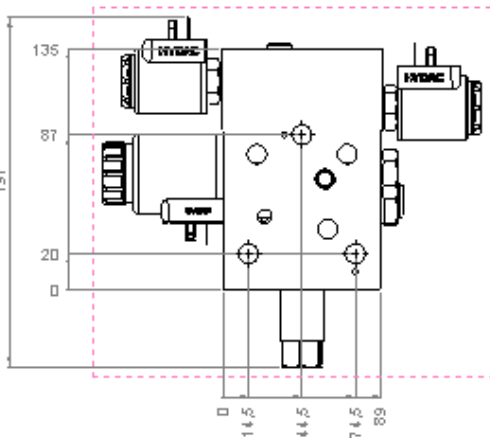
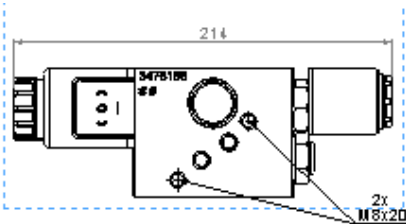
3x $\varnothing 11$ to hook-on further Function- and Main load modules (both sides)





Width 73 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 30 \text{ l/min}$

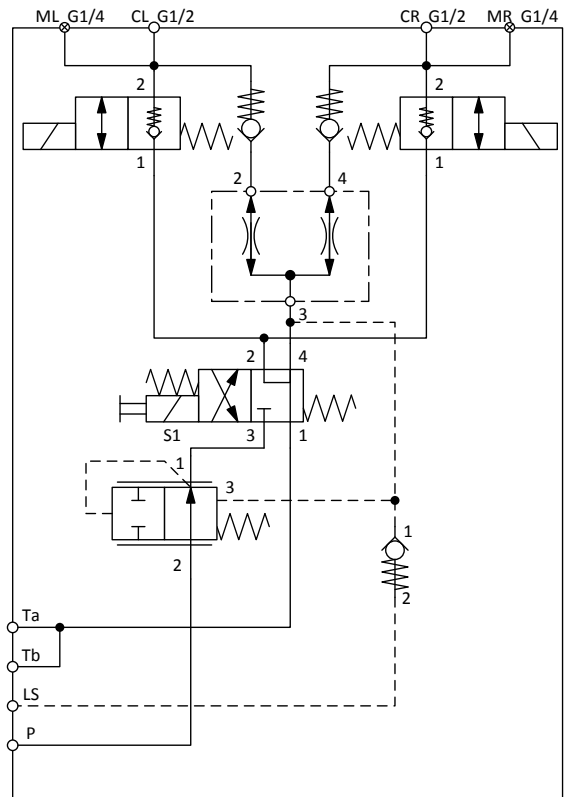


Function module 30 flow divider

FS30J-ID-ST-2RV-2WS-WK-12DG

Part no. 3569660

Part no. 3766386



Function

The Function module FS30J represents a load supply in on/off mode via individual-pressure compensator. If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/2 directional spool-valve and a pressure-compensator combination A flow divider supplies flow to both loads in the same proportion. The backflow is controlled by the two solenoid poppet valves

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 30 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:

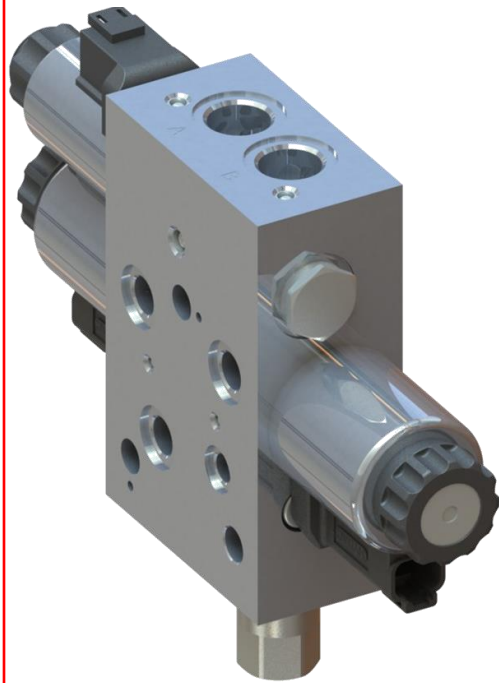
- Solenoid poppet valve WS08ZR-01-C-N... (Broch. 5.911)
- Shuttle change-over valve WVE-R1/8 (Broch. 5.173)
- Parts-in-body Check valve RV06
- EBS 4/3 Spool valve 4WKK10JA-11M..
- Parts-in-body pressure compensator DWV08-02-08
- Flow regulator ST10-01-C-N-66 (Broch. 5.967)

on choice:

Ports:	CL, CR:	G1/2"
	ML, MR:	G1/4"

Fixation

1x M8 on the bottom of the module for the fixation of the system in the machine
 3x ø11 to hook-on further Function- and Main load modules (both sides)



Width 54 mm

$P_{max} = 250 \text{ bar}$

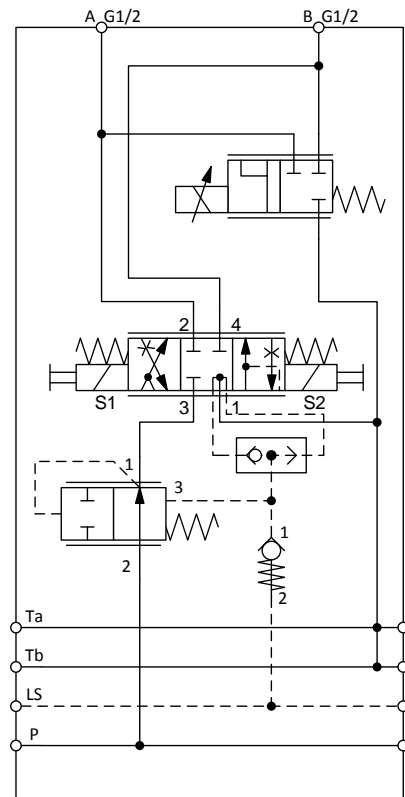
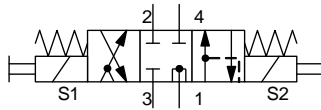
$Q_{max \text{ prop}} = 30 \text{ l/min}$

$Q_{max \text{ On/Off}} = 50 \text{ l/min}$

Function module 30 E-Spool prop floating position FP30E-ID-WK-HS-SS-12PN

Part no. 3671698

**Optional:
as On/Off
module**



Function

The Function module FP30E represents a load supply in proportional mode (optional on/off) via individual pressure compensator. By the additional proportional 3/2 valve on the downstream side of the load a floating position is realized. By the usage of the E-type spool a load holding in neutral position is enabled.

If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 proportional spool-valve. In de-energized mode both ports are closed off from tank. A special LS-pick-up in the spool valve provides that there is no pressure rising at the load. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 30 l/min (orifice size)/ On/Off 50 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner class 19/16/13, On/Off 21/19/16
Basic configuration valves:	- Parts-in-body Check valve RV06
on choice:	- 4/3 Spool valve 4PWKK10J-11M../ 4 WKK10J... - Parts-in-body pressure compensator DWV08-02-08

Ports: A, B: G1/2"

Fixation

1x M8 on the bottom of the module for the fixation of the system in the machine
3x $\varnothing 11$ to hook-on further Function- and Main load modules (both sides)

Function module 10 E-spool On/Off

FP22ED-ID03-2CP-12DG

Part no. 4008203



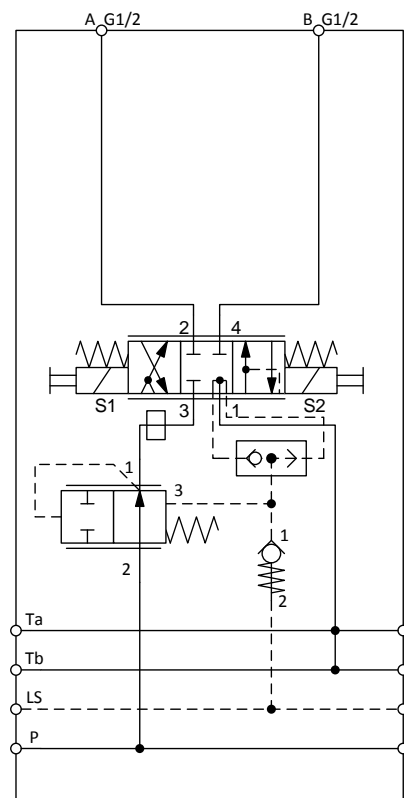
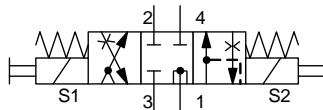
Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max \text{ prop}} = 35 \text{ l/min}$

$Q_{max \text{ On/Off}} = 50 \text{ l/min}$

**Optional:
as On/Off
module**



Function

The Function module FP22ED represents a load supply in proportional mode (optional on/off) via individual pressure compensator. If loads are active, the pressure in the LS-line acts against the opening of the pressure compensator. The inlet flow on both sides is effected via the 4/3 proportional spool-valve. In de-energized mode both ports are closed off from tank. A special LS-pick-up in the spool valve provides that there is no pressure rising at the load. The E-Spool which is throttled downstream can avoid a lowering of the load in case of lift-/lowering from the stop position. This happens by throttling the corresponding nominal flow on the tank-side, whereas both sides of the cylinder are "between ports A and B. The shuttle valve always reports the highest pressure to the LS-line as well as to the pressure compensator.

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 35 l/min (orifice size)/ On/Off 50 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner class 18/16/13, On/Off 21/19/16
Basic configuration valves:	- Shuttle change-over valve WVE-R1/8 (Broch. 5.173) - Parts-in-body Check valve RV06
on choice:	- 4/3 Spool valve 4PWKK10E-11M../4WKK10E... - Parts-in-body pressure compensator DWV08-02-05

Ports: A, B: G3/8"

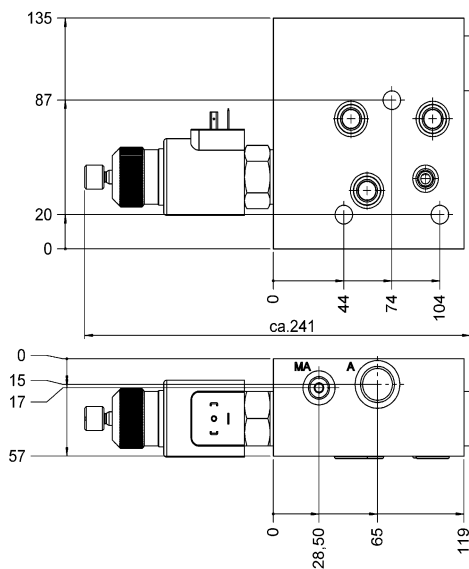
Fixation

1x M8 on the bottom of the module for the fixation of the system in the machine
3x $\varnothing 11$ to hook-on further Function- and Main load modules (both sides)



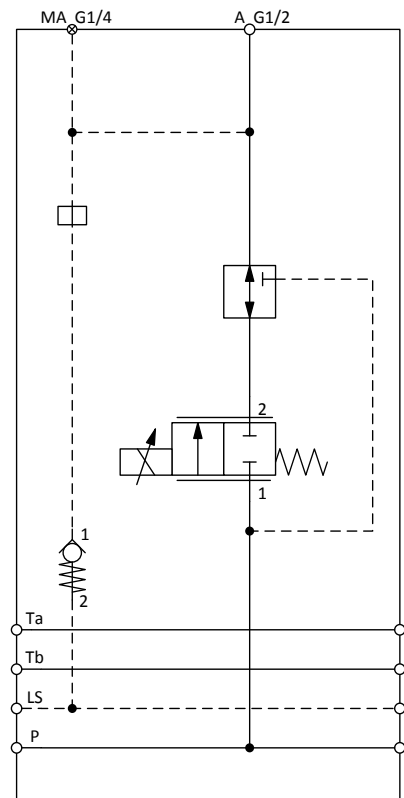
Width 57 mm

$P_{max} = 210 \text{ bar}$
 $Q_{max} = 80 \text{ l/min}$



Main load module without pressure compensator H1 PWK-O-XXPG

Part no. 3540483 12 Volt
Part no. 3540484 24 Volt



Function

The Main load module is preferably used for hydro-motors, which are used only in one direction. The supply is effected via a proportional-needle valve. The nominal flow at the loads could raise by using further functions. The pressure is reported via check valve to the LS-line.

Specifications

Operating pressure:

max. 210 bar

Nominal flow:

max. 80 l/min,

(max. 80 l/min with valve: PWK12120WP...)

Media operating temp. range:

-20°C up to +100°C

Ambient temperature range:

-20°C up to + 60°C

Filtration:

Class 21/19/16 according to
ISO4406 or cleaner
class 18/16/13

Basic configuration valves:

- Parts-in-body Check valve RV06

on choice:

- Proportional Wegevalve
PWK12120W-01M-C-V-45... or
PWK12120WP...

Ports:

B:

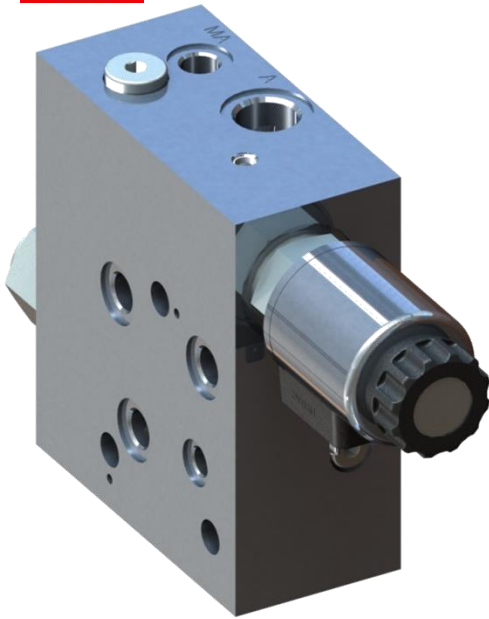
G 1/2"

MA:

G 1/4"

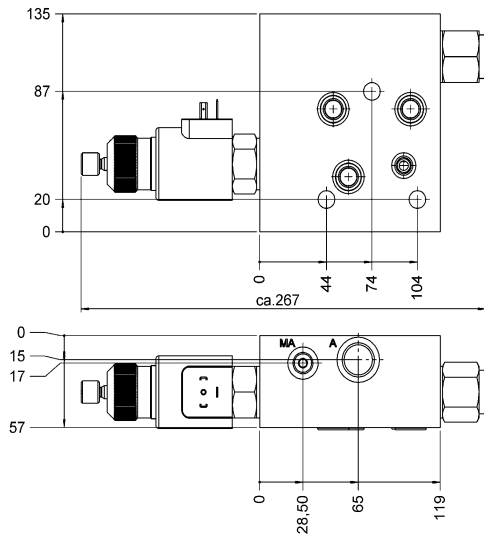
Fixation

3x Ø11 for flanging-on at Functions- or Main Load modules



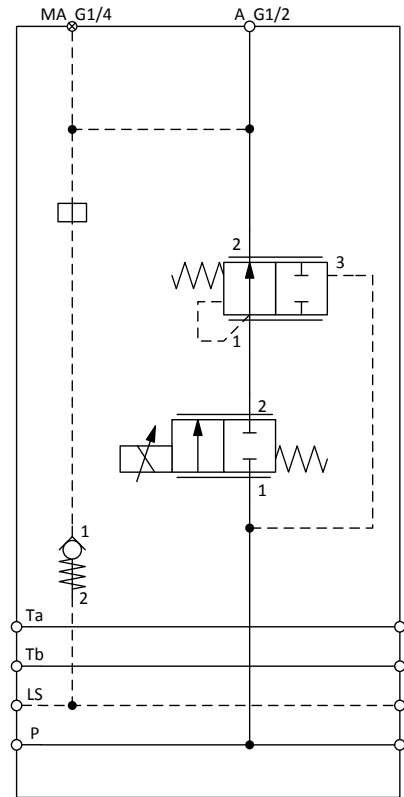
Width 57 mm

$P_{max} = 210 \text{ bar}$
 $Q_{max} = 80 \text{ l/min}$



Main load module with 1 pressure compensator H1 PWK-RD15-XXPG

Part no. 3540481 12 Volt
Part no. 3540482 24 Volt



Function

The Main load module is preferably used for hydro-motors, which are used only in one direction. The supply is effected via a proportional-needle valve in combination with a pressure compensator. By this flow regulation the speed of the load with variable loads is kept constant in any way. The pressure is reported via check valve to the LS-line.

Specifications

Operating pressure:

max. 210 bar

Nominal flow:

max. 80 l/min,

(max. 80 l/min with valve: PWK12120WP...)

Media operating temp. range:

-20°C up to +100°C

Ambient temperature range:

-20°C up to + 60°C

Filtration:

Class 21/19/16 according to

ISO4406 or cleaner

class 18/16/13

Basic configuration valves:

- Parts-in-body Check valve RV06

on choice:

- Proportional Wegevalve

PWK12120W-01M-C-V-45... or

PWK12120WP...

- pressure compensator DWR12130-01-C-V-15

Ports:

B:

G 1/2"

MA:

G 1/4"

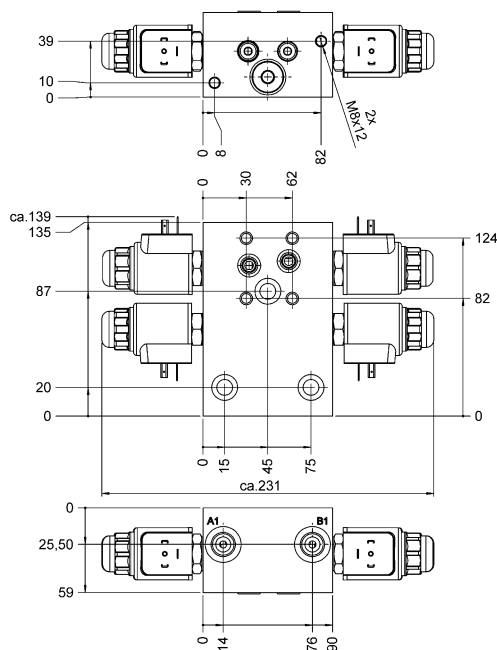
Fixation

3x Ø11 for flanging-on Functions- or Main Load modules



Width 49 mm

$P_{max} = 210 \text{ bar}$
 $Q_{max} = 19 \text{ l/min}$

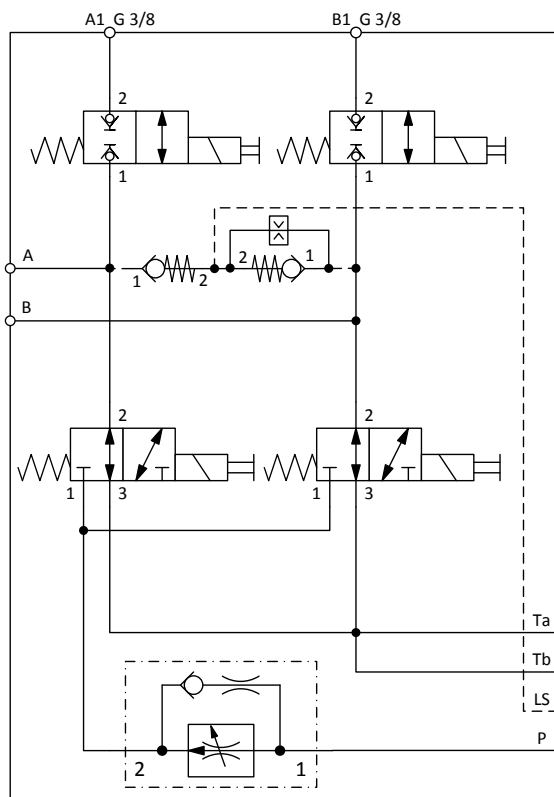


Pre-selection module 19L SW

WS19D-SR-2WS-XXDG

Part no. 3540526 12 Volt

Part no. 3540527 24 Volt



Function

The Pre-selection module On/Off 19L represents an on/off switching supply of the connected Cylinder function modules. One supply of a load is already integrated in this module and is supplied via the 2/2-directional poppet valves. The inlet flow is effected via a common flow regulator, this means, that all following cylinder functions are driven at the same velocity. The 3/2-solenoid-spool valves control in the lines A or B the metering-in or metering-out for all cylinder functions. The needed pressure in the following modules is reported via check valves to the LS-line. In parallel use of cylinder functions together with main functions the LS-pressure is effected by these, too (speed, force).

Specifications

Operating pressure:	max. 210 bar
Nominal flow:	max. 19 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:
 on choice:

- 2x Parts-in-body Check valve RV06
- 3/2 Spool valve WK08D-01M-C-N... (Broch. 5.915)
- 2/2 poppet valve WSM06020W-01M-C-V... (Broch. 5.949)
- Flow regulator (Broch. 5.118) SRE2-G3/8-01X/15-19 (15 – 19 l/min)

Ports: A, B: G 3/8"

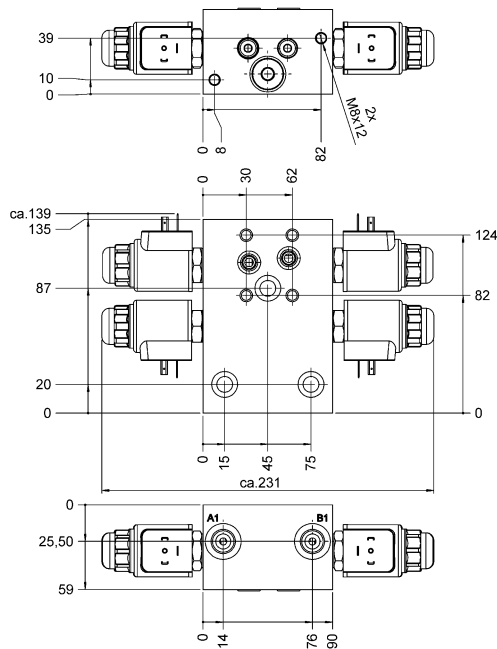
Fixation

3x Ø11 mm for flanging-on at Functions- or Main Load modules
 4x M8 to hook-on further Cylinder Function modules



Width 49 mm

$P_{max} = 250 \text{ bar}$
 $Q_{max} = 24 \text{ l/min}$

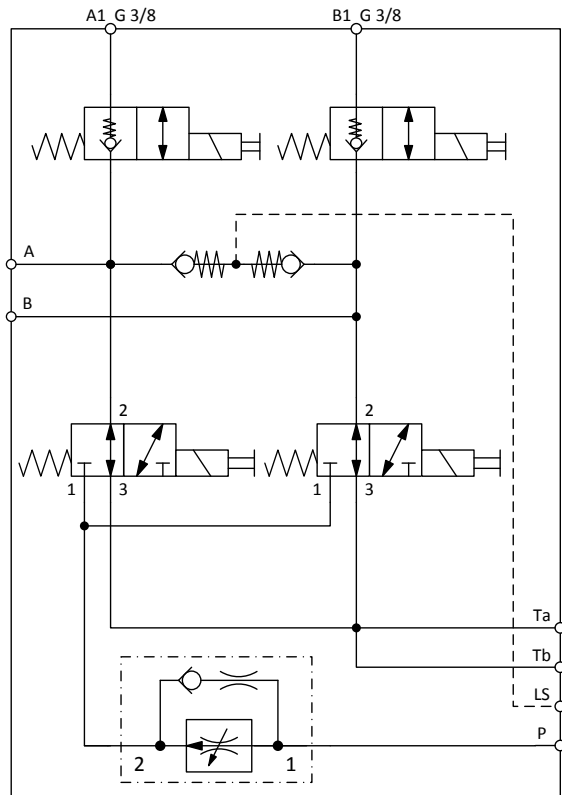


Pre-selection module 24L SW

WS24D-SR-2WS-XXDG

Part no. 3524249 12 Volt

Part no. 3524223 24 Volt



Function

The Pre-selection module On/Off 24L represents an on/off switching supply of the connected Cylinder function modules. One supply of a load is already integrated in this module and is supplied via the 2/2-directional poppet valves. The inlet flow is effected via a common flow regulator, this means, that all following cylinder functions are driven at the same velocity. The 3/2-solenoid-spool valves control in the lines A or B the metering-in or metering-out for all cylinder functions. The needed pressure in the following modules is reported via check valves to the LS-line. In parallel use of cylinder functions together with main functions the LS-pressure is effected by these, too (speed, force).

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 24 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves:	- 2x Parts-in-body Check valve RV06
	- 3/2 solenoid spool valve WK10D-01M-C-N
	- 2/2solenoid poppet valve WSM06020ZR-01M-C-N
	- Flow regulator SRE3-G1/2-13X/25
on choice:	- Parts-in-body 4/3 Spool valve 4WKK10J-11M...

Ports: A1 ,B1: G 3/8"

Fixation

3x Ø11 mm for flanging-on at Functions- or Main Load modules
 4x M8 to hook-on furthercylinder Function modules

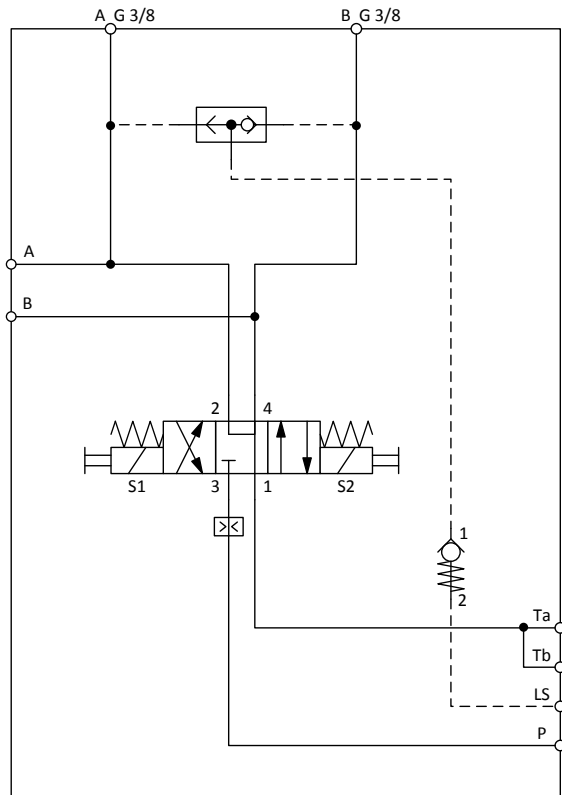
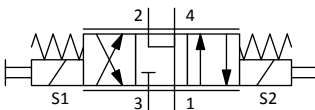
Pre-selection module 50L On/Off

WS50J-BL-O-XXDG

Part no. 3541901 12 Volt

Part no. 3541902 24 Volt

Optional:
as Prop module



Function

The Pre-selection module On/Off 50L represents an on/off switching supply of the connected Cylinder function modules. The inlet flow is effected via a common flow regulator, this means, that all following cylinder functions are driven at the same velocity. The 3/2-solenoid-spool valves control in the lines A or B the metering-in or metering-out for all cylinder functions. The needed pressure in the following modules is reported via check valves to the LS-line. In parallel use of cylinder functions together with main functions the LS-pressure is effected by these, too (speed, force).

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 50 l/min / Prop. 30 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner , proportional 19/16/13

Basic configuration valves:

- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)
- Parts-in-body Check valve RV06
- Parts-in-body 4/3 Spool valve 4WKK10J-11M.../ 4PWKK10J...

on choice:

Ports: A, B: G 3/8"

Fixation

3x Ø11 mm for flanging-on at Functions- or Main Load modules
4x M8 to hook-on further Cylinder Function modules

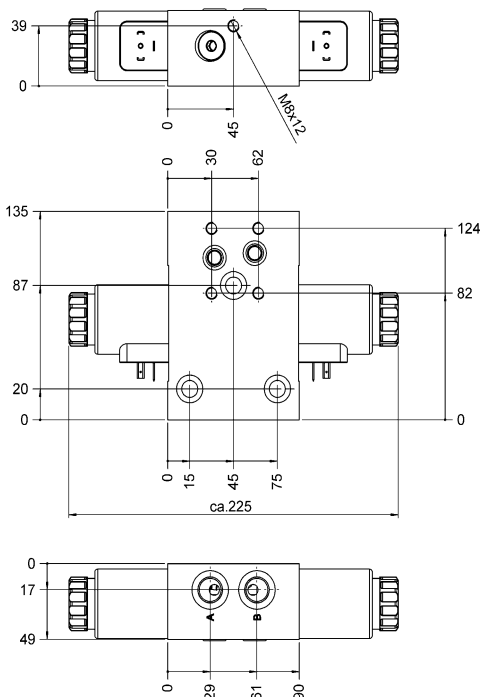


Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max} = 50 \text{ l/min}$

$Q_{max \text{ prop}} = 30 \text{ l/min}$



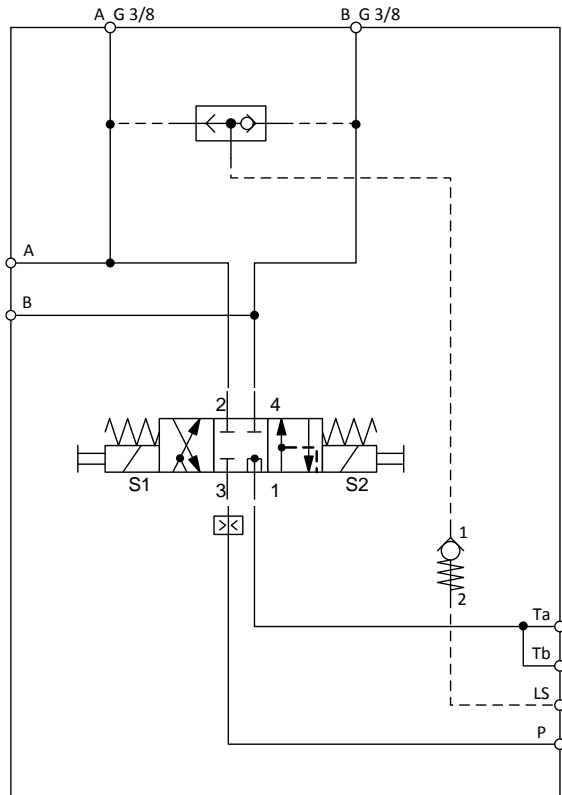
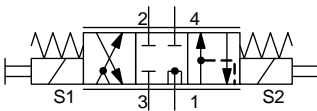
Pre-selection module 50L SW

WS50E-BL-0-12DG

Part no. 3348573 12Volt

Part no. 3524184 24Volt

Optional:
as Prop module



Function

The Pre-selection module On/Off 50L represents an on/off switching supply of the connected Cylinder function modules. The inlet flow is effected via a common flow regulator, this means, that all following cylinder functions are driven at the same velocity. A spool-tight load holding is enabled by the 4/3 E solenoid spool valve. As well as the control in the lines A or B the metering-in or metering-out for all cylinder functions. The needed pressure in the following modules is reported via check valves to the LS-line. In parallel use of cylinder functions together with main functions the LS-pressure is effected by these, too (speed, force).

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 50 l/min/ Prop. 30 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner , proportional 18/16/13
Basic configuration valves:	- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)
on choice:	- Parts-in-body Check valve RV06 - Parts-in-body 4/3 Spool valve 4WKK10E-11M... /4PWkk10E...

Ports: A, B: G 3/8"

Fixation

3x Ø11 mm for flanging-on at Functions- or Main Load modules
4x M8 to hook-on furthercylinder Function modules

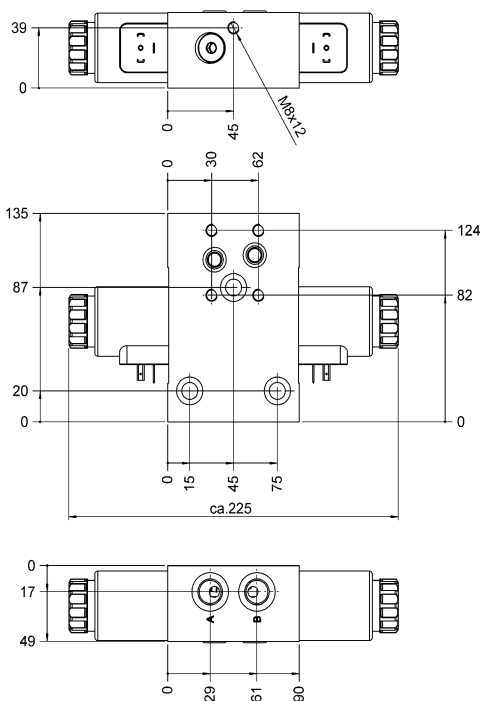


Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max} = 50 \text{ l/min}$

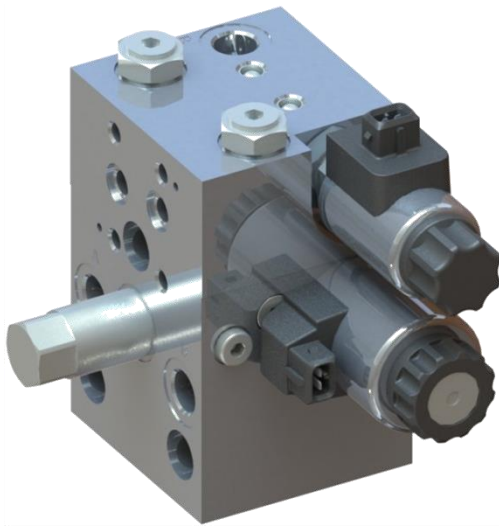
$Q_{max \text{ prop}} = 30 \text{ l/min}$



Pre-selection module 30L prop

WP30J-ID-2RV+1WS-ID-XXDT/DU

Part no. 3492042



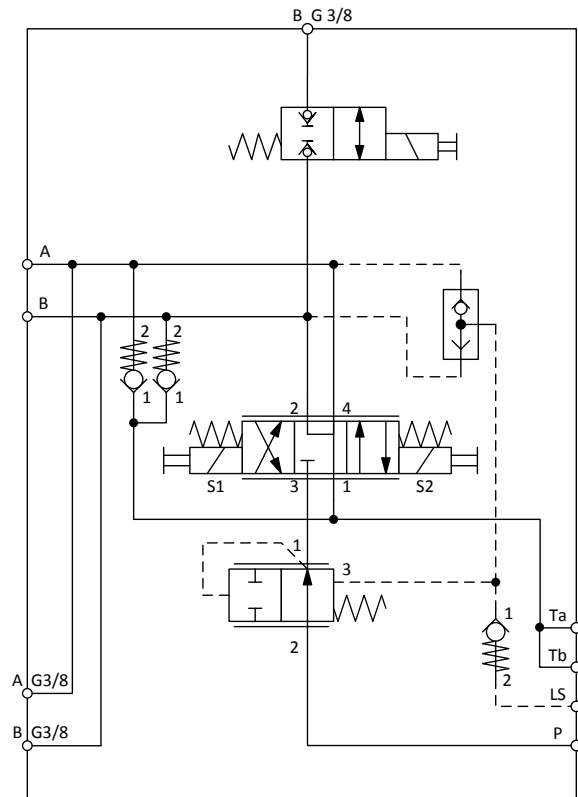
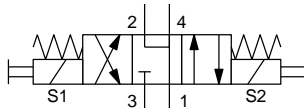
Width 49 mm

$P_{max} = 250 \text{ bar}$

$Q_{max} = 50 \text{ l/min}$

$Q_{max \text{ prop}} = 30 \text{ l/min}$

**Optional:
as On/Off
module**



Function

The Pre-selection module 30L represents a proportional supply of the connected Cylinder function modules. One supply of a load is already integrated in this module and is supplied via the 2/2-directional poppet valves. The inlet flow is effected via a common flow regulator, this means, that all following cylinder functions are driven at the same velocity. A spool-tight load holding is enabled by the 4/3 E solenoid spool valve. As well as the control in the lines A or B the metering-in or metering-out for all cylinder functions. The needed pressure in the following modules is reported via check valves to the LS-line. In parallel use of cylinder functions together with main functions the LS-pressure is effected by these, too (speed, force).

Specifications

Operating pressure:	max. 250 bar
Nominal flow:	max. 30 l/min / On/Off 50 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner class 18/16/13, On/Off 21/19/16

Basic configuration valves:

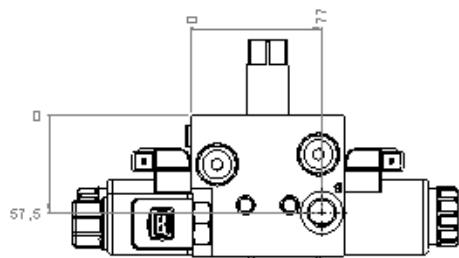
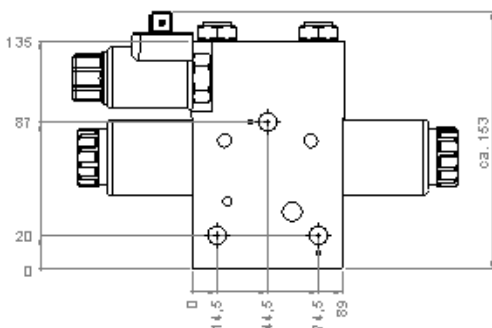
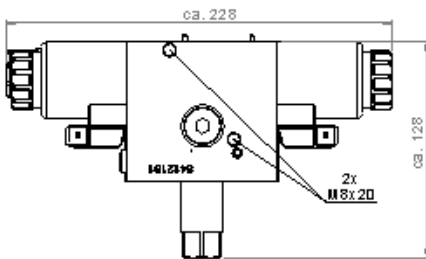
- Shuttle change-over valve WVE-R1/8-010 (Broch. 5.173)
- Parts-in-body Check valve RV06
- Parts-in-body Individual pressure compensator DW08V-22-08
- 2 x RV08A-01-C-N-05 (Broch. 5.912)
- Parts-in-body 4/3 Spool valve 4PWKK10J-11M... / 4WKK10J...

on choice:

Ports: A, B: G 3/8"

Fixation

3x Ø11 mm for flanging-on at Functions- or Main Load modules
4x M8 to hook-on further cylinder Function modules



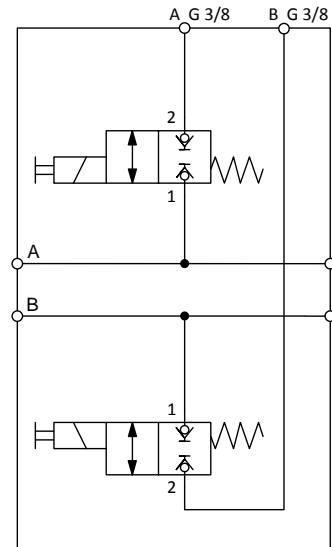
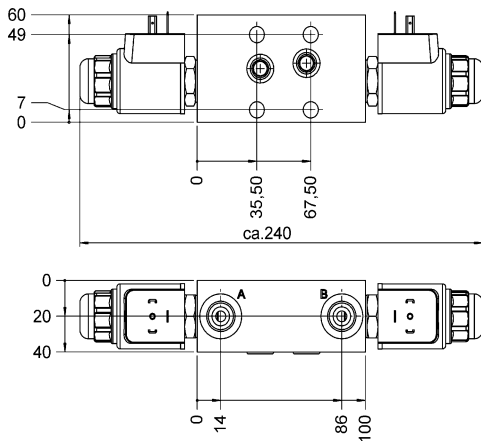


Cylinder Function module 2-times, 19L
for one double-acting cylinder S02 02-W19-XXDG
Part no. 3541904 12 Volt
Part no. 3541917 24 Volt



Width 40 mm

P_{max} = 210 bar
Q_{max} = 19 l/min



Function

The cylinder Function module 2-times represents an on/off supply of one double acting cylinder. Hereby the solenoid valves are switched at the same time.
 By the use as end-module the Ports A and B have to be closed by corresponding plugs .

Specifications

Operating pressure: max. 210 bar
 Nominal flow: max. 19 l/min
 Media operating temp. range: -20°C up to +100°C
 Ambient temperature range: -20°C up to + 60°C
 Filtration: Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves on choice: - Solenoid poppet valves
 WSM06020W-01M-C-V... (Broch. 5.949)
 (other symbols V, Z, ZR, Y, YR
 s. Model code)

Ports: A, B: G 3/8"

Fixation

4x Ø 9mm for flanging-on at pre-selection module or further cylinder Function modules

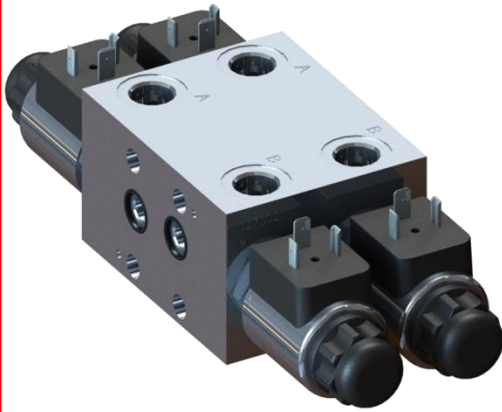


Cylinder Function module 4-times, 19L

S04 04-W19-XXDG

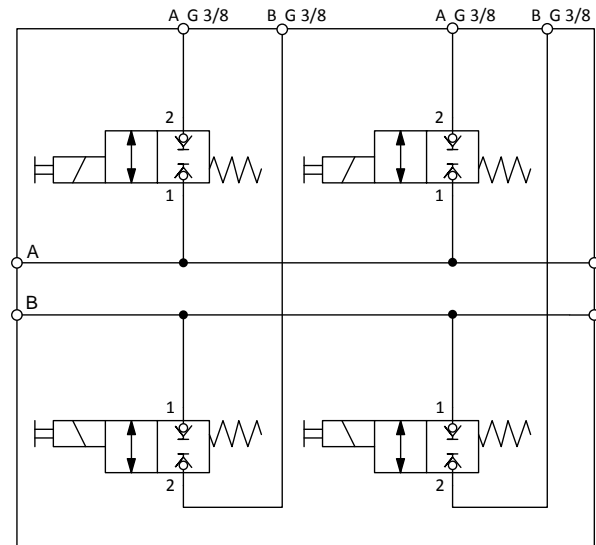
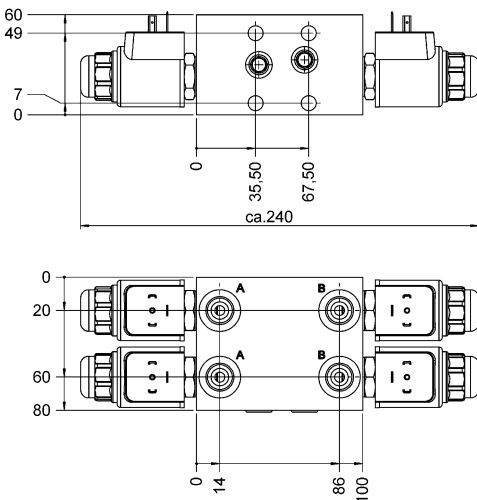
Part no. 3542121 12 Volt

Part no. 3542124 24 Volt



Width 80 mm

$P_{max} = 210 \text{ bar}$
 $Q_{max} = 19 \text{ l/min}$



Function

The cylinder Function module 4-times represents an on/off supply of cylinder functions. Two double acting cylinders can be controlled.

By the use as end-module the Ports A and B have to be closed by corresponding plugs .

Specifications

Operating pressure:	max. 210 bar
Nominal flow:	max. 19 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves on choice: - Solenoid poppet valves
 WSM06020W-01M-C-V... (Broch. 5.949)
 (other symbols V, Z, ZR, Y, YR
 s. Model code)

Ports: A, B: G 3/8"

Fixation

4x Ø 9mm for flanging-on at pre-selection module or further cylinder Function modules

Cylinder Function module 2-times, 30L

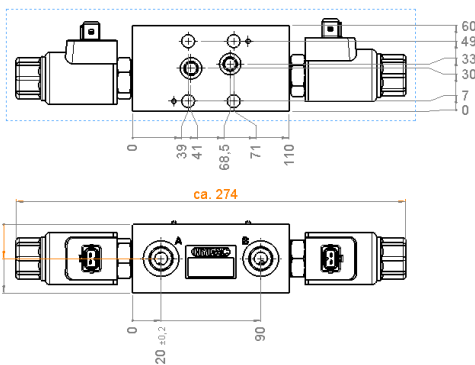
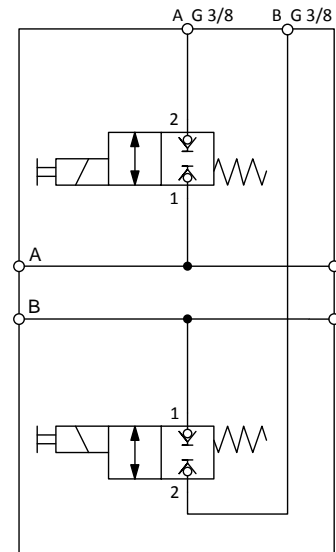
S02 02-W30-XXDT

Part no. 3434500 12Volt



Width 48 mm

$P_{max} = 210 \text{ bar}$
 $Q_{max} = 30 \text{ l/min}$



Function

The cylinder Function module 2-times represents an on/off supply of one double acting cylinder. Hereby the solenoid valves are switched at the same time. By the use as end-module the Ports A and B have to be closed by corresponding plugs .

Specifications

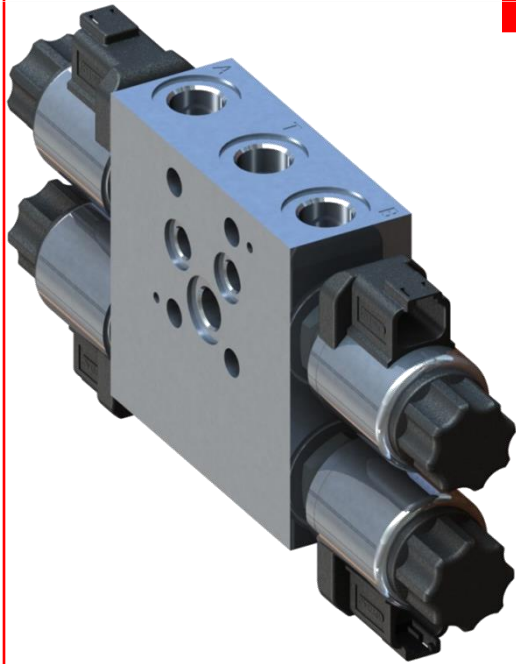
Operating pressure:	max. 210 bar
Nominal flow:	max. 30 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves on choice: - Solenoid poppet valves
 WS10W... (Broch. 5.965)
 (other symbols V, Z, ZR, Y, YR
 s. Model code)

Ports: A, B: G 3/8"

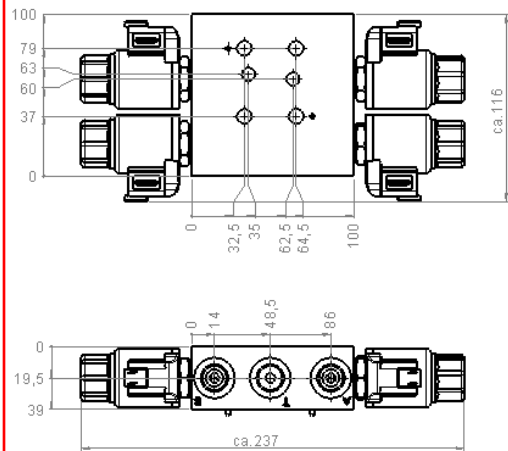
Fixation

4x Ø 9mm for flanging-on at pre-selection module or further cylinder Function modules



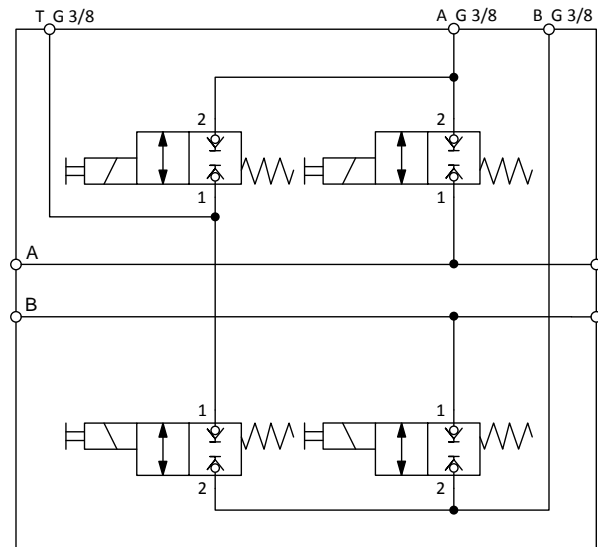
Width 39 mm

$P_{max} = 210 \text{ bar}$
 $Q_{max} = 19 \text{ l/min}$



Cylinder Function module 4-times. 30L S04 04-WS19-SS-XXDN

Part no. 3524127 12 Volt



Function

The cylinder Function module 4-times represents an on/off supply of cylinder functions. Two double acting cylinders can be controlled.

By the use as end-module the Ports A and B have to be closed by corresponding plugs .

Specifications

Operating pressure:	max. 210 bar
Nominal flow:	max. 19 l/min
Media operating temp. range:	-20°C up to +100°C
Ambient temperature range:	-20°C up to + 60°C
Filtration:	Class 21/19/16 according to ISO4406 or cleaner

Basic configuration valves on choice: - Solenoid poppet valves
 WSM06020W.. (Broch. 5.949)
 (other symbols V, Z, ZR, Y, YR
 s. Model code)

Ports: A,B: G 3/8"

Fixation

4x Ø 9mm for flanging-on at pre-selection module or further cylinder Function modules

Projecting hints

Function modules

FS20D-SR-WS

Single acting loads. Valves only up to 19l/min. Flow control valve SRE1 with different flow rates at disposal.

FS19D-2SR-2RP-2DB

J-function realized by 2x directional valves WK08D. Flow control valve SRE2 with different flow rates flow rates built-in. Check function by 2x RV08A valves. Pressure control of the load by 2x DB4E valves.

FS38J-ID-WS

Flow control function realized by installation kit pressure compensator DWV08 + measuring orifice M10 under regulating piston. By Variation of the orifice different flow rates could be realized. Maximal flow rate determined by the solenoid poppet valve WS08Z.

FS70J-BL-O

Inlet flow via orifice, this means different pressure in P-line lead to different flow rates at A or B.

FS70J-ID-O

Flow control function realized by installation kit pressure compensator DWV08 + measuring orifice M10 under regulating piston. By variation of the orifice different flow rates could be realized. 80l/min is limit for den installation kit-spool 4WKK10J. Variations possible by solenoid poppet valve WS08... at ports A and B -> FS40J-S-W-O, as well as usage EBS 4PWKK10J (then do not mount measuring orifice under EBS DWV08) -> FP35J-I-O-O; FP35J-I-W-O

FS38J-ID-2RP

Flow control function realized by installation kit pressure compensator DWV08 + measuring orifice M10 under regulating piston. By variation of the orifice different flow rates could be realized.

FP35J-ID-O

Variations possible by solenoid poppet valve WS08... at ports A and B -> FP35J-I-W-O, as well as usage of the installation kit-spool 4WKK10J (then do not mount measuring orifice under EBS DWV08) -> FS80J-S-O-O

FP35E-ID-2AK210/210

Anti-cavitation valve (combination DB and feeding) as installation kit. Different pressure relief pressures possible, but valves not adjustable (preset). Please ask for detailed adjust values. Usage of the installation kit-spools 4WKK10E possible (then mount measuring orifice under EBS DWV08) -> FS80E-S-O-2

FP35E-ID-2AK210/210

Anti-cavitation valve (combination DB and feeding) as installation kit. Different pressure relief pressures possible, but valves not adjustable (preset). Please ask for detailed adjust values. Usage of the installation kit-spools 4WKK10E possible (then mount measuring orifice under EBS DWV08) -> FS80E-S-O-2S

FS38-ID-DL

Accumulator charging valve. At pilot control accumulator pressure adjustable (upper switch point); the lower switch point is depending in the upper one – different differentials possible.

The pilot control is very fragile against dirt, therefore use filter with 10µm.

Accumulator charging minimal pressure approx. 30bar.

Projecting hints

Main load modules

H1-PWK-RD15

Better load pressure reporting if optional orifice D1 is not mounted.

H1-PWK-O

Better load pressure reporting if optional orifice D1 is not mounted.

H2-2PWK-2RD15

Better load pressure reporting if optional orifices D1 and D2 are not mounted. Relief 3.5 is realized in the Inlet module realized – here omitted.

Pre-selection modules od other Cylinder function modules

WS19D-SR-2WS

J-function realized by 2x directional spool valves WK08D. Flow control valve SRE with different flow rates existing. Solenoid poppet valve WSM06020 represents the first cylinder function could also be closed by corresponding plugs. Throttle with reverse flow check possible in ports A and B (not mounted). LS-relief via check valve with 0,5mm-borehole at port A.

WS70J-BL-O

Inlet flow via orifice, this means different pressures in P-line lead to different flow rates at A or B.

Cylinder function modules

S02-02-W

Supply of one double-acting load or two single acting loads possible.

S02-02-W

Supply of two single acting loads possible.

S04-04-W

Supply of two double-acting load or four single acting loads possible.

S05-05-W

End module. Inlet and outlet lines are closed at the end. One additional cylinder function could be built-in before this module.

S08-07A-W

Supply of three double acting loads and one single acting load or seven single acting loads possible.

By removal of one plug and equipment with the corresponding valve the possibility is given to act four double acting loads or eight single acting loads.



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