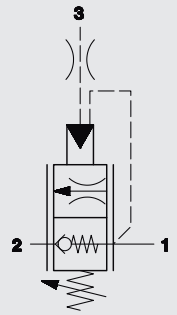


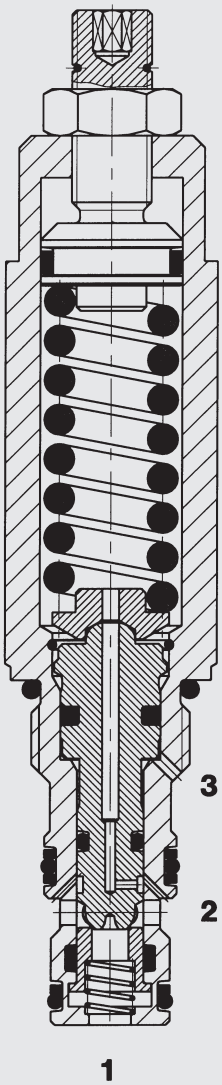
38 l/min
350 bar

Counterbalance Valve Poppet Type, Direct-Acting SAE-08 Cartridge – 350 bar

UNF

RS08-01

FUNCTION



The counterbalance valve RS08 is a direct-acting poppet valve. Its function is to control the speed of a load according to the inlet flow. It also prevents the load from overrunning if there are retracting loads and ensures smooth action in loads. In load-holding applications, it can be used as a hose-break valve. (Detailed function see page 3 of this brochure)

FEATURES

- High stability throughout the entire flow range
- Quick response
- Adjustable throughout flow range
- Max. stroke limiter
- Hardened and ground internal valve components to ensure minimal wear and extended service life
- Sealing between port 2 and port 3 prevents leakage between the ports
- Optional spring ranges up to 350 bar
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1.000 h salt spray test)

SPECIFICATIONS*

Operating pressure:	max. 350 bar	
Nominal flow:	max. 38 l/min	
Setting pressure:	up to 350 bar	
Cracking pressure:	3 bar	
Internal leakage:	max. 0.25 cm³/min at 80% nominal pressure	
Pilot ratio:	3 = 3:1 4 = 4:1	
Media operating temperature range:	min. -30 °C to max. +100 °C	
Ambient temperature range:	min. -30 °C to max. +100 °C	
Operating fluid:	Hydraulic oil to DIN 51524 Part 1, 2, 3	
Viscosity range:	min. 7.4 mm²/s to max. 420 mm²/s	
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner	
$MTTF_d$:	150 years	
Installation:	No orientation restrictions	
Materials:	Valve body:	free-cutting steel
	Poppet:	hardened and ground steel
	Seals:	NBR (standard) FKM (optional, temperature range -20 °C to +120 °C)
	Back-up rings:	PTFE
Cavity:	FC08-3	
Weight:	0.27 kg	

* see "Conditions and instructions for valves" in brochure 53.000

MODEL CODE

RS08-01 – C – N – 3 500 V 300

Basic model
Counterbalance valve UNF

Body and ports*
C = cartridge only
SB3 = G3/8 ports, steel body
AB3 = G3/8 ports, aluminium body

Seals
N = NBR (standard)
V = FKM

Pilot ratio
3 = 3:1
4 = 4:1

Pressure setting range
500 = 350 bar (5000 psi)

Type of adjustment
V = Allen head (hex. 5/32")
H = Knob adjustment
F = Factory preset, non adjustable

Cracking pressure setting
No details = no setting, spring relaxed
300 = 210 bar (3000 psi)
Customer-specific opening pressure on request

Standard models

Model code	Part No.
RS08-01-C-N-3-500V	3915803
RS08-01-C-N-4-500V	562798

*Standard in-line bodies

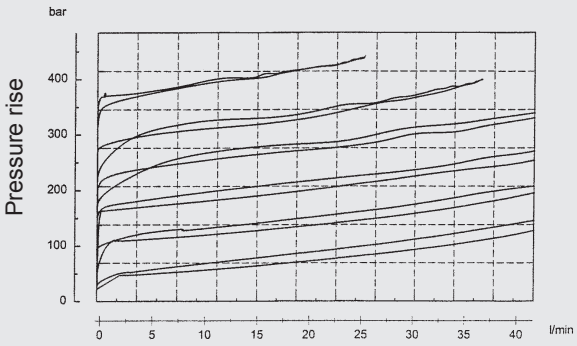
Code	Part No.	Material	Ports	Pressure
FH083-SB3	560922	Steel, zinc-plated	G3/8	420 bar
FH083-AB3	3011427	Aluminium, anodized	G3/8	210 bar

Seal kits

Code	Material	Part No.
FS UND 08/N	NBR	3651385
FS UNF 08/V	FKM	3651356

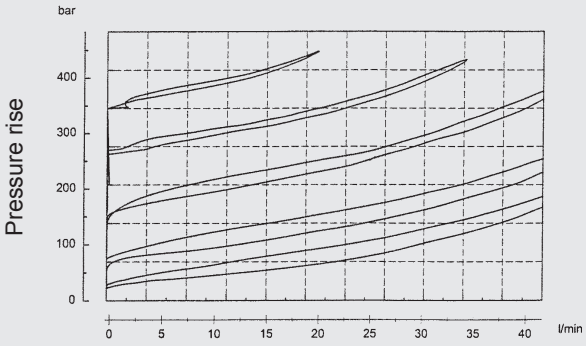
PERFORMANCE

Measured at ν = 34 mm²/s, T_{oil} = 46 °C
phi = 3:1



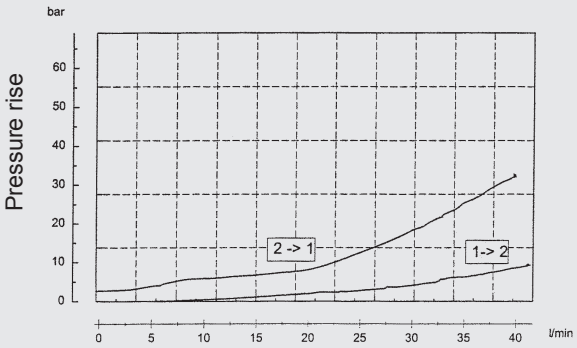
Flow rate

Measured at ν = 34 mm²/s, T_{oil} = 46 °C
phi = 4:1



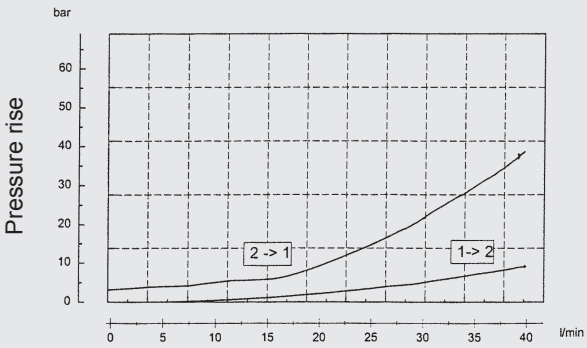
Flow rate

Measured at ν = 34 mm²/s, T_{oil} = 46 °C
phi = 3:1



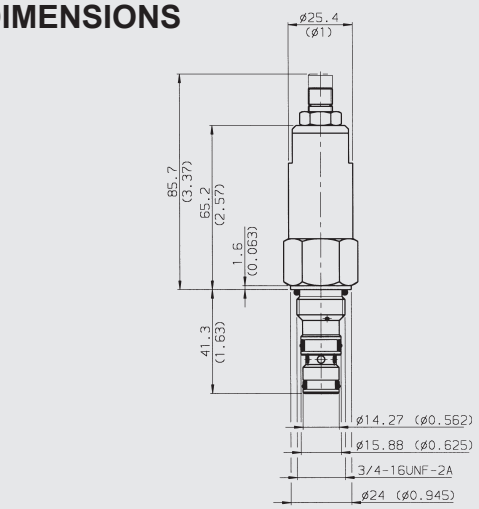
Flow rate

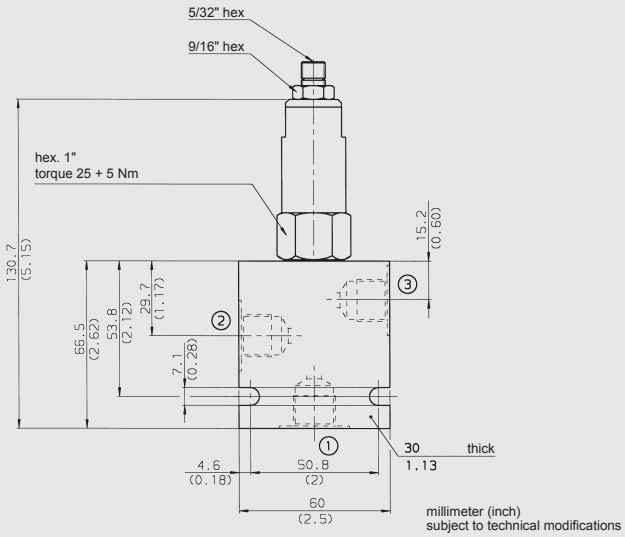
Measured at ν = 34 mm²/s, T_{oil} = 46 °C
phi = 4:1



Flow rate

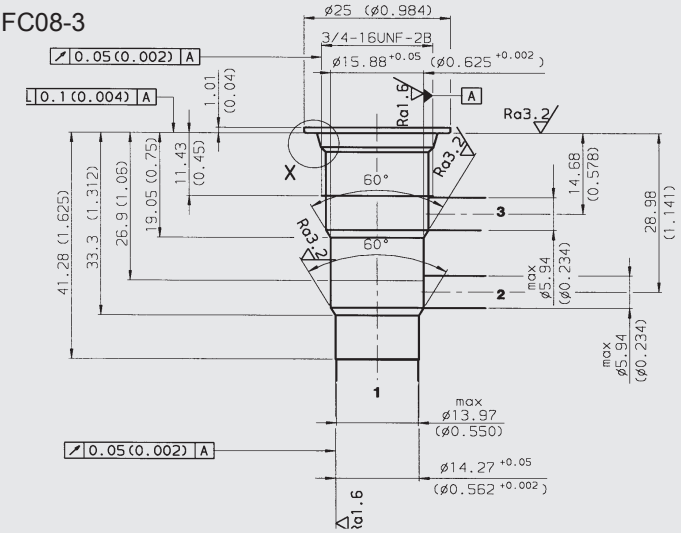
DIMENSIONS

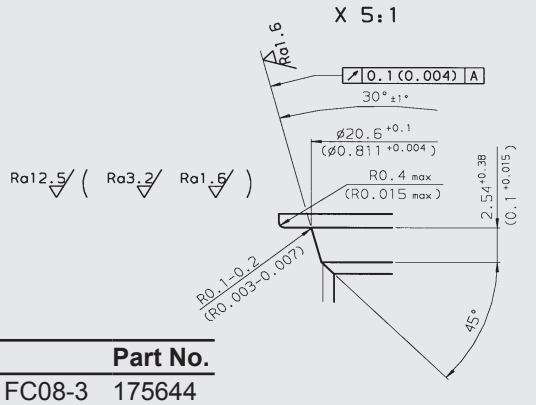




CAVITY

FC08-3





Form tools

Tool	Part No.
Countersink FC08-3	175644
Reamer FC08-3	175645

millimeter (inch)
subject to technical modifications

To raise a load, there is free flow from pump port 2 to port 1 via the built-in check valve.
To hold the load, the check piston is pressed against its seat by the load pressure at port 1 and seals leakage-free (control port 3 has to be unpressurized!).
To lower the load, pressure is applied at port 3 - which opens the valve. Flow is now permitted from port 1 to 2. The load is prevented from hurrying ahead because the flow is limited at the metering edge of the control piston corresponding to its pressure.
An additional limitation of the load pressure is provided in that the load pressure at port 1 acts on a control face against the springforce. When the springforce is exceeded, the control piston moves away from the check piston, and opens the flow path from port 1 to 2 – the resulting flow limits the load pressure to the pre-set value.
Speed contol when lowering the load!
For loads hurrying ahead when lowering, the valve must be installed in the return line of the load!

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

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