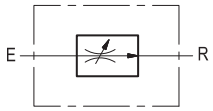
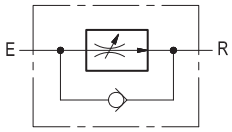
Flow regulators

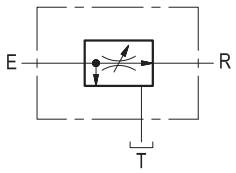
2-way, pressure compensated

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	VRFC2	210 (3000)	20 (5)	G 3/8	18309-32	321
	VRFC2	210 (3000)	up to 190 (50)	G 3/8 - G 1/2 G 3/4 - G 1	18309-33	323
	VRFC2-L	210 (3000)	up to 90 (24)	G 3/8 - G 1/2 - G 3/4	18309-34	325
	A-VRFC2	350 (5000)	up to 190 (50)	G 3/8 - G 1/2 G 3/4 - G 1	18309-35	327

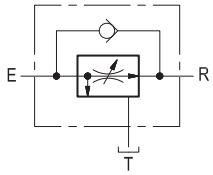
2-way, pressure compensated with check valve for free reverse flow

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	VRFC2-VU	210 (3000)	up to 190 (50)	G 3/8 - G 1/2 G 3/4 - G 1	18309-36	329

2-way, pressure compensated

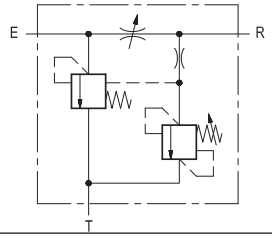
Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	VRFC3	210 (3000)	25 (7)	G 3/8	18309-37	331
	VRFC3	210 (3000)	up to 90 (24)	G 3/8 - G 1/2 - G 3/4	18309-38	333
	VRFC3	210 (3000)	190 (50)	G 1	18309-39	335
	VRFC3-L	210 (3000)	up to 90 (24)	G 3/8 - G 1/2 - G 3/4	18309-40	337
	A-VRFC3	350 (5000)	up to 90 (24)	G 1/2 - G 3/4	18309-41	339
	A-VRFC3	350 (5000)	190 (50)	G 1	18309-42	341

3-way, pressure compensated with check valve for free reserve flow

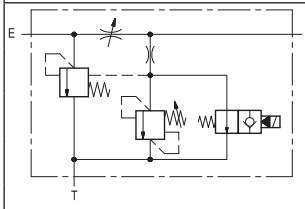
Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	VRFC3-VU	210 (3000)	up to 55 (15)	G 3/8 - G 1/2	18309-43	343
	VRFC3-VU	210 (3000)	90 (24)	G 3/4	18309-44	345

Flow regulators

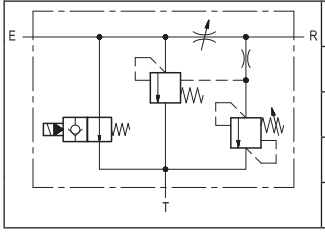
3-way, pressure compensated with relief

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	VRFC3-VS	210 (3000)	up to 190 (50)	G 3/8 - G 1/2 G 3/4 - G 1	18309-45	347
	VRFC3-VS	210 (3000)	up to 90 (24)	G 3/8 - G 1/2 - G 3/4	18309-46	349

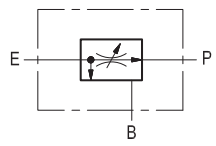
3-way, pressure compensated with relief and solenoid control

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	VRFC3-VS-VEI	210 (3000)	up to 190 (50)	G 1/2 - G 3/4 - G1	18309-47	351

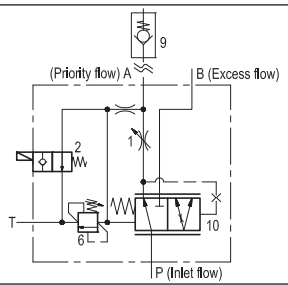
3-way, pressure compensated with relief and solenoid by-pass

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	VRFC3-VS-BPE	210 (3000)	up to 55 (15)	G 3/8 - G 1/2	18309-48	353
	VRFC3-VS-BPE	210 (3000)	up to 90 (24)	G 3/4	18309-49	355

3-way, combination type, pressure compensated

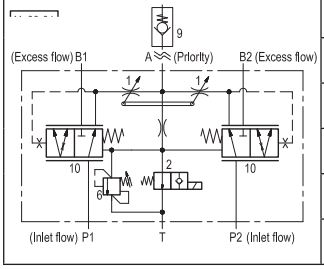
Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	VRFC3C	210 (3000)	up to 190 (50)	G 3/8 - G 1/2 G 3/4 - G 1	18309-50	357
	A-VRFC3C	350 (5000)	up to 190 (50)	G 3/4 - G 1	18309-51	359
	VRFC3C	210 (3000)	up to 90 (24)	G 3/8 - G 1/2 - G 3/4	18309-52	361

3-way, heavy duty flow control, with pressure compensated and solenoid controlled priority flow

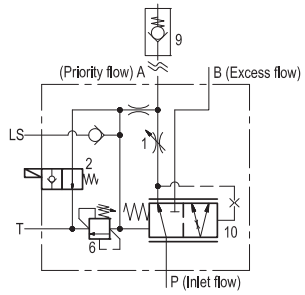
Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	A-VRFC3C-VEI-VS	350 (5000)	up to 300 (80)	G 1/2 - G 3/4 G 1 - G 1 1/4	18309-53	363

Flow regulators

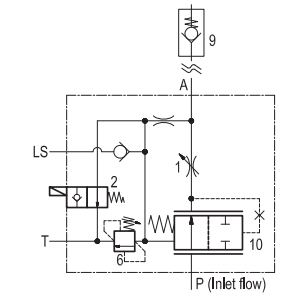
5-way, heavy duty flow control, with pressure compensated and solenoid controlled priority flow for two pumps systems

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	A-VRFC3C-VEI-VS	350 (5000)	up to 390 (103)	G 1/2 - G 3/4 - G 1	18309-54	369

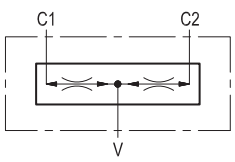
3-way, heavy duty flow control, with pressure compensated, solenoid and load sensing controlled priority flow

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	A-VRFC3C-VEI-VS-LS	350 (5000)	140 (37)	1 1/16-12 UN-2B	18309-63	375

2-way, heavy duty flow control, with pressure compensated, solenoid and load sensing controlled priority flow

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	A-VRFC2C-VEI-VS-LS	350 (5000)	140 (37)	1 1/16-12 UN-2B	18309-64	381

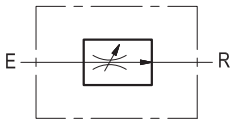
Flow dividers, combiners

Symbol	Type	Max. Pressure bar (psi)	Max. Flow l/min. (gpm)	Ports size	Data Sheet	Page
	DRF	210 (3000)	up to 38 (10)	G 3/8	18309-55	387
	DRF	210 (3000)	up to 38 (10)	G 1/2 - G 3/8	18309-56	389
	DRF	210 (3000)	up to 150 (40)	G 3/4 - G 1/2	18309-57	391
	DRF	210 (3000)	up to 150 (40)	G 3/4 - G 1	18309-58	393
	A-DRF	350 (5000)	up to 16 (4)	G 3/8	18309-59	395
	A-DRF	350 (5000)	up to 50 (13)	G 1/2 - G 3/8	18309-60	397
	A-DRF	350 (5000)	up to 95 (25)	G 3/4 - G 1/2	18309-61	399
	A-DRF	350 (5000)	up to 150 (40)	G 3/4 - G 1	18309-62	401

RE 18309-32/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 2-way, pressure compensated

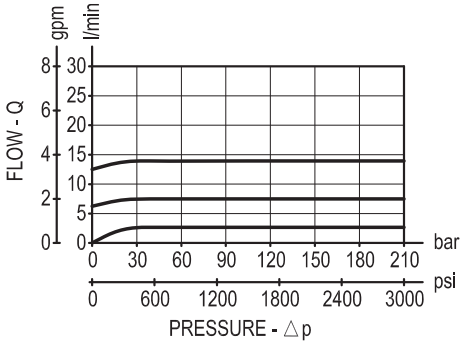
VRFC2 **0M.22.03 - X - 97**



Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of approximately 5 bar (70 psi) exists between the two ports. Output flow can be varied from zero (closed) to the nominal maximum rating. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated.

Performance



Technical data

Hydraulic

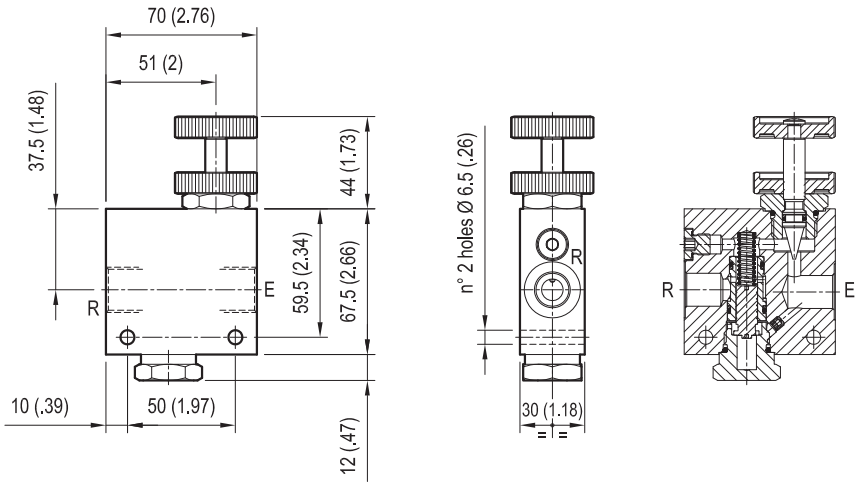
Operating pressure	bar (psi)	up to 210 (3000)
Q = max inlet flow “E” port 20 l/min (5 gpm)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight	kg (lbs)	0.5 (1.1)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

Ordering code

0M.22.03	X	97

Flow regulator,
2-way, pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes

E - R
G 3/8

Type	Material number
0M220370970000A	R930004189
0M2203809700000	R930004195
0M2203409700000	R930000223

Type	Material number

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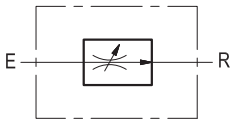
RE 18309-33/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 2-way, pressure compensated

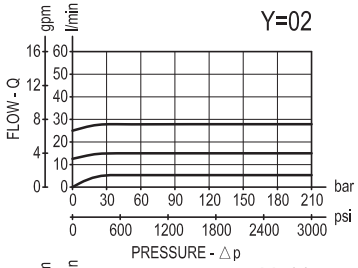
VRFC2 **0M.22.03 - X - Y**

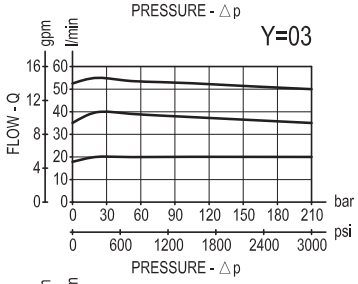


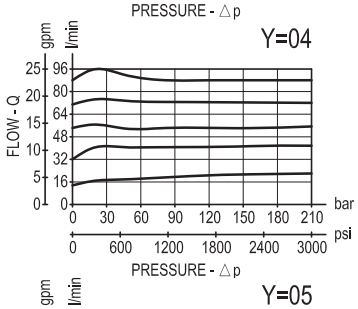
Description

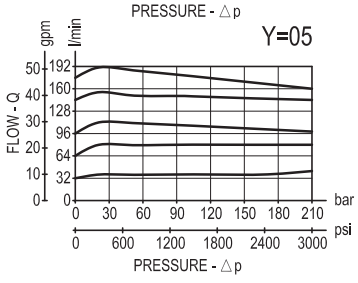
A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of approximately 5 bar (70 psi) exists between the two ports. Output flow can be varied from zero (closed) to the nominal maximum rating. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated.

Performance









Technical data

Hydraulic

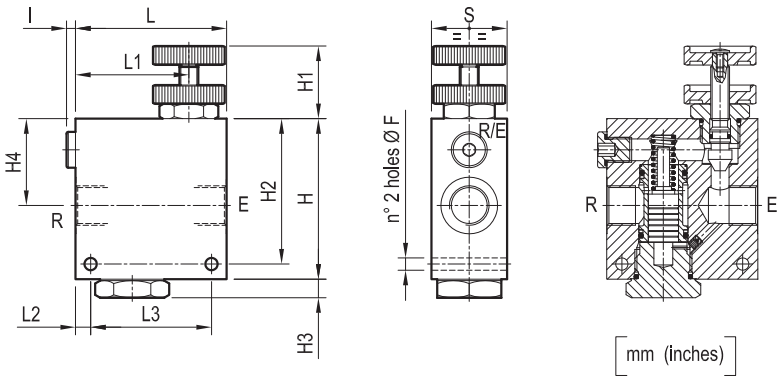
Operating pressure	bar (psi)	up to 210 (3000)
Q = max inlet flow “E” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



50 (1.97)	82 (3.23)	8 (0.32)	78 (3.07)	108 (4.25)	5 (0.2)	62 (2.44)	10 (0.39)	98 (3.86)	40 (1.58)	108 (4.25)	8.5 (0.34)			190 l/min 50 gpm	G 1	1.94 (4.28)
50 (1.97)	82 (3.23)	8 (0.32)	75 (2.95)	100 (3.94)	5 (0.2)	56 (2.21)	10 (0.39)	90 (3.54)	40 (1.58)	100 (3.94)	8.5 (0.34)			90 l/min 24 gpm	G 3/4	1.65 (3.64)
40 (1.58)	64 (2.52)	8 (0.32)	60 (2.36)	80 (3.15)	5 (0.2)	46 (1.81)	10 (0.39)	77 (3.03)	40 (1.58)	85 (3.35)	6.5 (0.26)			55 l/min 15 gpm	G 1/2	0.88 (1.94)
40 (1.58)	64 (2.52)	8 (0.32)	60 (2.36)	80 (3.15)	5 (0.2)	46 (1.81)	10 (0.39)	77 (3.03)	40 (1.58)	85 (3.35)	6.5 (0.26)			30 l/min 8 gpm	G 3/8	0.88 (1.94)
S	L3	L2	L1	L	I	H4	H3	H2	H1	H	F			Q	Y	Weight kg (lbs)

Ordering code

0M.22.03 | X | Y

Flow regulator,
2-way, pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4
= 05	G 1

Type	Material number
0M2203700200000	R930004181
0M2203700300000	R930004182
0M2203700400000	R930004183
0M2203700500000	R930004184
0M2203800200000	R930004190
0M2203800300000	R930004192
0M2203800400000	R930004193
0M2203800500000	R930004194

Type	Material number
0M2203400200000	R930004169
0M2203400300000	R930004170
0M2203400400000	R930004171
0M2203400500000	R930004172

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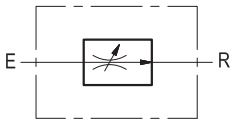
motion-control-valves@oilcontrol.com
www.boschrexroth.com

RE 18309-34/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 2-way, pressure compensated

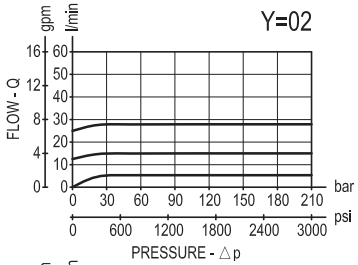
VRFC2-L **0M.22.03.50 - Y**

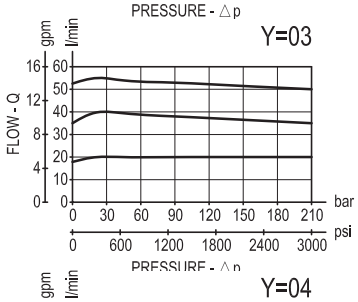


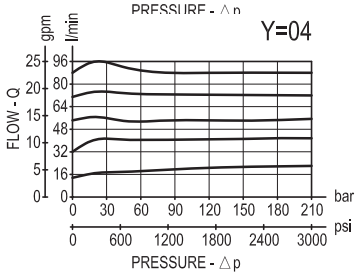
Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of approximately 5 bar (70 psi) exists between the two ports. Output flow can be varied from zero (Closed) to the nominal maximum rating (Open). Reverse flow from R to E is limited by the selected opening of the lever controlled restrictor and is not pressure compensated.

Performance







Technical data

Hydraulic

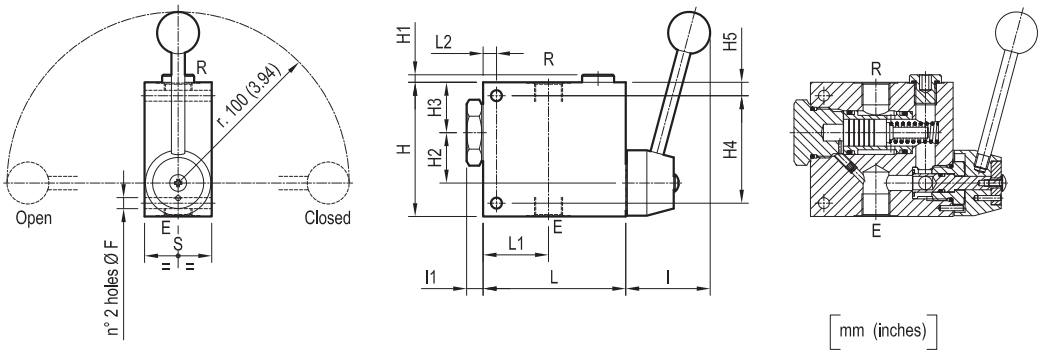
Operating pressure	bar (psi)	up to 210 (3000)
Q = max inlet flow “E” port (see “Dimensions”)		
Flow control range: from 15° to 165° of hand lever rotation		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

50 (1.97)	10 (0.39)	44 (1.73)	100 (3.94)	10 (0.39)	50 (1.97)	8 (0.32)	82 (3.23)	35 (1.38)	40 (1.58)	4.5 (0.18)	100 (3.94)	8.5 (0.34)	90 l/min 24 gpm	G 3/4	1.75 (3.86)
40 (1.58)	8 (0.32)	39 (1.54)	85 (3.35)	10 (0.39)	50 (1.97)	8 (0.32)	64 (2.52)	30 (1.18)	30 (1.18)	4.5 (0.18)	80 (3.15)	6.5 (0.26)	55 l/min 15 gpm	G 1/2	0.97 (2.14)
40 (1.58)	8 (0.32)	39 (1.54)	85 (3.35)	10 (0.39)	50 (1.97)	8 (0.32)	64 (2.52)	30 (1.18)	30 (1.18)	4.5 (0.18)	80 (3.15)	6.5 (0.26)	30 l/min 8 gpm	G 3/8	0.97 (2.14)
S	L2	L1	L	I1	I	H5	H4	H3	H2	H1	H	F	Q	Y	Weight kg (lbs)

Ordering code

0M.22.03	50	Y

Flow regulator,
2-way, pressure compensated

Adjustments

Lever with built in friction clutch

Port sizes	E - R
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4

Type	Material number
0M2203500200000	R930004174
0M2203500300000	R930004175
0M2203500400000	R930004176

Type	Material number

Bosch Rexroth Oil Control S.p.A.
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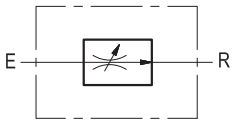
www.boschrexroth.com

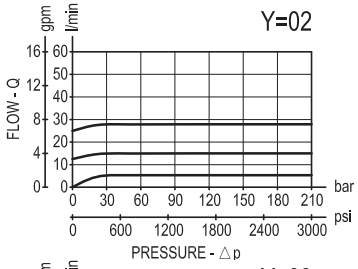
RE 18309-35/04.10 1/2
Replaces: RE 00171/02.07

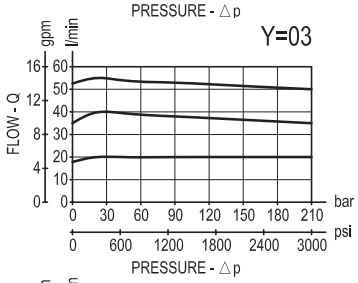
Flow regulator, 2-way, pressure compensated

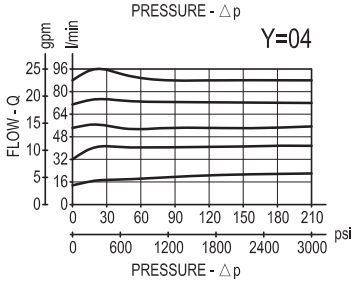
A-VRFC2 **0M.B2.03 - X - Y**

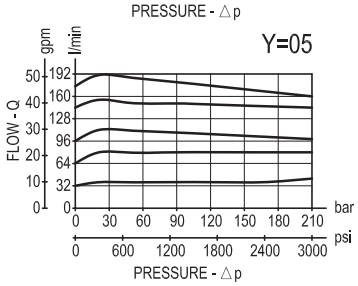


Performance









Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of approximately 5 bar (70 psi) exists between the two ports. Output flow can be varied from zero (closed) to the nominal maximum rating. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated.

Technical data

Hydraulic

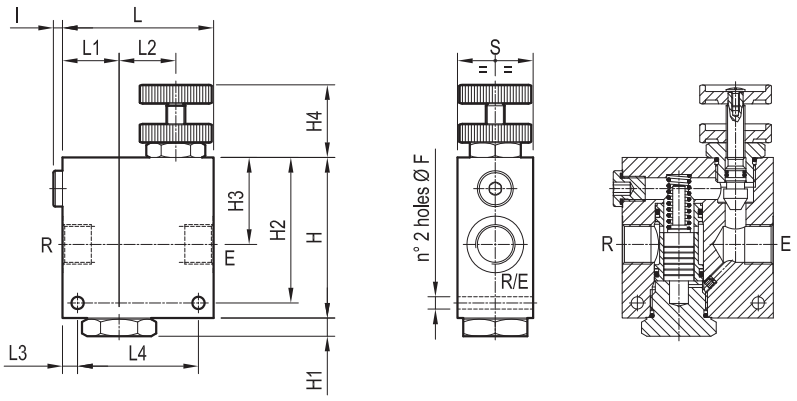
Max. operating pressure	bar (psi)	350 (5000)
Q = max inlet flow “E” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Steel
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



50 (1.97)	82 (3.23)	8 (0.32)	38 (1.5)	40 (1.58)	108 (4.25)	5 (0.2)	40 (1.58)	62 (2.44)	98 (3.86)	10 (0.39)	100 (3.94)	8.5 (0.34)	190 l/min 50 gpm	G 1	4.3 (9.5)
50 (1.97)	82 (3.23)	8 (0.32)	40 (1.58)	35 (1.38)	100 (3.94)	5 (0.2)	40 (1.58)	56 (2.21)	90 (3.54)	10 (0.39)	100 (3.94)	8.5 (0.34)	90 l/min 24 gpm	G 3/4	3.5 (7.7)
40 (1.58)	64 (2.52)	8 (0.32)	30 (1.18)	30 (1.18)	80 (3.15)	5 (0.2)	40 (1.58)	46 (1.81)	77 (3.03)	10 (0.39)	85 (3.35)	6.5 (0.26)	55 l/min 15 gpm	G 1/2	1.9 (4.19)
40 (1.58)	64 (2.52)	8 (0.32)	30 (1.18)	30 (1.18)	80 (3.15)	5 (0.2)	40 (1.58)	46 (1.81)	77 (3.03)	10 (0.39)	85 (3.35)	6.5 (0.26)	30 l/min 8 gpm	G 3/8	1.9 (4.19)
S	L4	L3	L2	L1	L	I	H4	H3	H2	H1	H	F	Q	Y	Weight kg (lbs)

[mm (inches)]

Ordering code

0M.B2.03	X	Y

Flow regulator,
2-way, pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4
= 05	G 1

Type	Material number
0MB203700200000	R930004469
0MB203700300000	R930004470
0MB203700400000	R930004471
0MB203700500000	R930004472
0MB203800200000	R930000225
0MB203800300000	R930000234
0MB203800400000	R930000241
0MB203800500000	R930000250

Type	Material number
0MB203400200000	R930000228
0MB203400300000	R930000229
0MB203400400000	R930000238
0MB203400500000	R930000254

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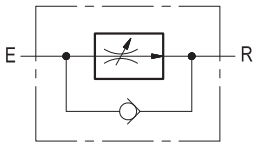
RE 18309-36/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 2-way, pressure compensated, with check valve for free reverse flow

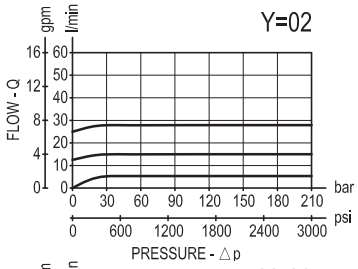
VRFC2-VU **0M.24.03 - X - Y**

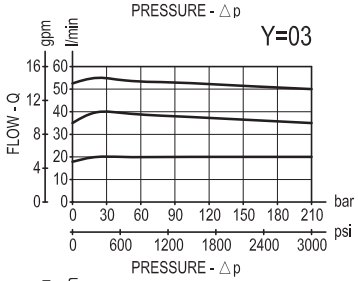


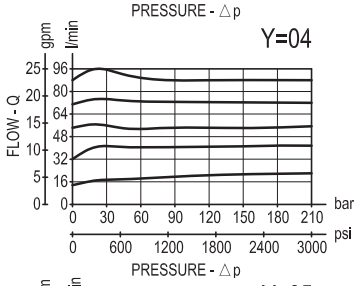
Description

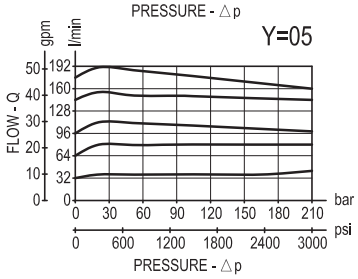
A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of approximately 5 bar (70 psi) exists between the two ports. Output flow can be varied from zero (closed) to the nominal maximum rating. Free flow is permitted from R to E, regardless of valve adjustment, when pressure overcomes the spring bias of the check valve.

Performance









Technical data

Hydraulic

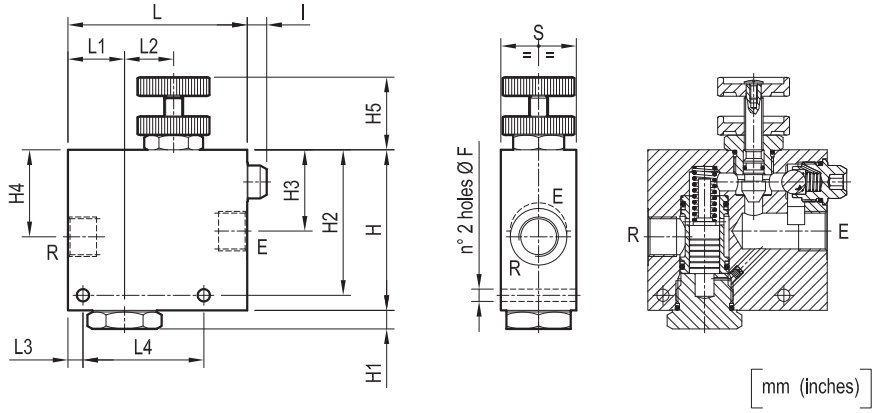
Operating pressure	bar (psi)	up to 210 (3000)
Q = max inlet flow “E” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

50 (1.97)	82 (3.23)	8 (0.32)	40 (1.58)	40 (1.58)	145 (5.71)	13 (0.51)	40 (1.58)	64 (2.52)	66 (2.6)	100 (3.94)	10 (0.39)	110 (4.33)	8.5 (0.34)	190 l/min 50 gpm	G 1	3.1 (6.8)
50 (1.97)	82 (3.23)	8 (0.32)	40 (1.58)	35 (1.38)	130 (5.12)	13 (0.51)	40 (1.58)	56 (2.21)	54 (2.13)	90 (3.54)	10 (0.39)	100 (3.94)	8.5 (0.34)	90 l/min 24 gpm	G 3/4	2.1 (4,6)
40 (1.58)	64 (2.52)	8 (0.32)	26 (1.02)	30 (1.18)	95 (3.74)	10 (0.39)	40 (1.58)	46 (1.81)	42 (1.65)	77 (3.03)	10 (0.39)	85 (3.35)	6.5 (0.26)	55 l/min 15 gpm	G 1/2	1.04 (2,3)
40 (1.58)	64 (2.52)	8 (0.32)	26 (1.02)	30 (1.18)	95 (3.74)	10 (0.39)	40 (1.58)	46 (1.81)	41.5 (1.63)	77 (3.03)	10 (0.39)	85 (3.35)	6.5 (0.26)	30 l/min 8 gpm	G 3/8	1.04 (2.3)
S	L4	L3	L2	L1	L	I	H5	H4	H3	H2	H1	H	F	Q	Y	Weight kg (lbs)

Ordering code

0M.24.03	X	Y

Flow regulator,
2-way, pressure compensated
check valve for free reverse flow

Adjustments		
= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4
= 05	G 1

Type	Material number
0M2403700200000	R930004201
0M2403700300000	R930004202
0M2403700400000	R930004203
0M2403700500000	R930004204
0M2403800200000	R930000267
0M2403800300000	R930004205
0M2403800400000	R930000221
0M2403800500000	R930000256

Type	Material number
0M2403400200000	R930004200
0M2403400300000	R930000524
0M2403400400000	R930000525
0M2403400500000	R930000274

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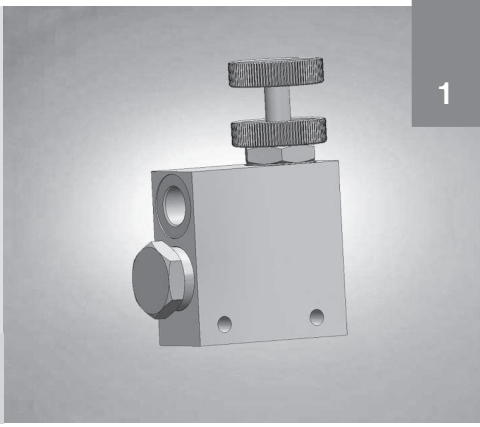
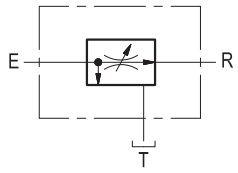
RE 18309-37/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated



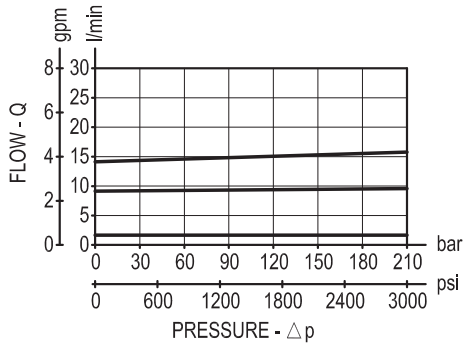
VRFC3 **0M.32.03 - X - 97**



Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not possible. Increasing or decreasing inlet flow may cause slight increase or decrease of Regulated flow.

Performance



Technical data

Hydraulic

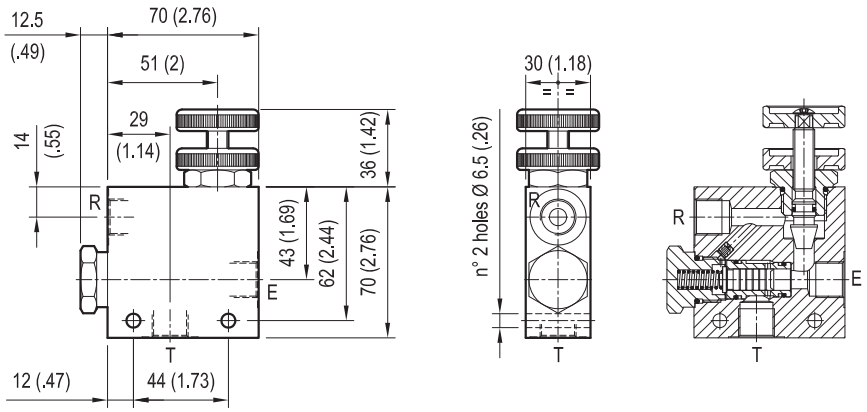
Operating pressure	bar (psi)	up to 210 (3000)
QE = max inlet flow “E” port 40 l/min (11 gpm)		
QR = max regulated flow “R” port 25 l/min (7 gpm)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight	kg (lbs)	0.55 (1.21)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

Ordering code

0M.32.03	X	97

Flow regulator,
2-way, pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes

E - R - T
G 3/8

Type	Material number
0M3203709700000	R930004239
0M3203809700000	R930004246
0M3203409700000	R930004226

Type	Material number

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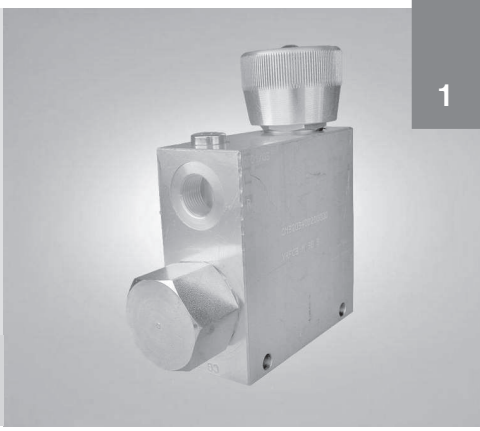
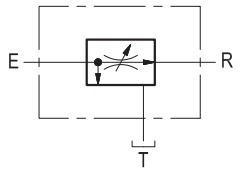
RE 18309-38/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated



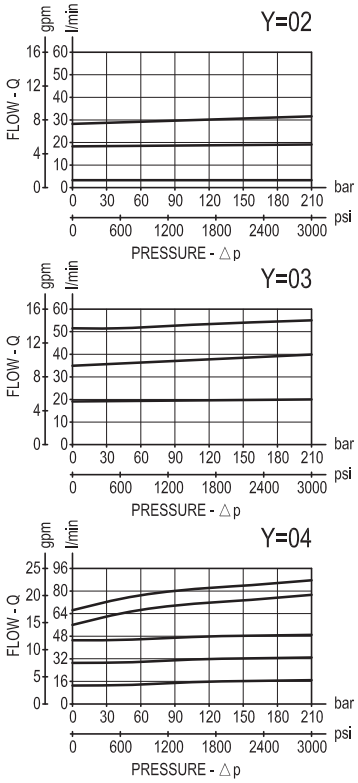
VRFC3 **0M.32.03 - X - Y**



Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not possible. Increasing or decreasing inlet flow may cause slight increase or decrease of Regulated flow.

Performance



Technical data

Hydraulic

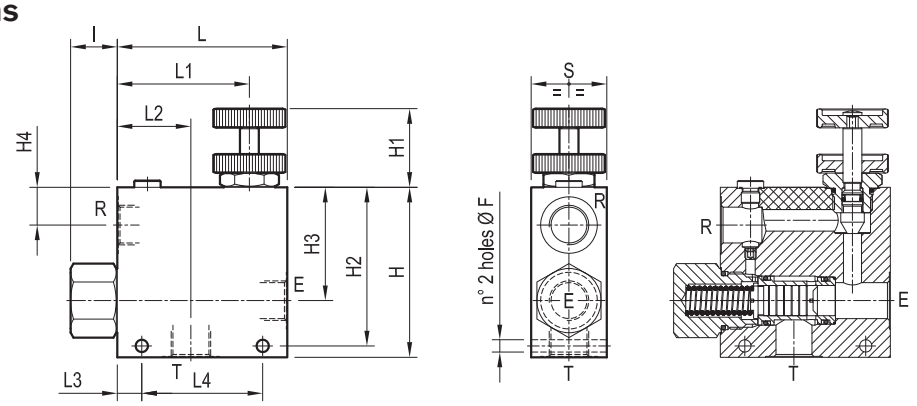
Operating pressure	bar (psi)	up to 210 (3000)
QE = max inlet flow “E” port (see “Dimensions”)		
QR = max regulated flow “R” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



50 (1.97)	88 (3.47)	10 (0.39)	44 (1.73)	79 (3.11)	108 (4.25)	25 (0.98)	23 (0.91)	73 (2.87)	101 (3.98)	40 (1.58)	108 (4.25)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	1.95 (4.3)
40 (1.58)	64 (2.52)	13 (0.51)	39 (1.54)	70 (2.76)	90 (3.54)	25 (0.98)	17.5 (0.69)	60 (2.36)	84 (3.31)	40 (1.58)	90 (3.54)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.06 (2.34)
40 (1.58)	64 (2.52)	13 (0.51)	39 (1.54)	70 (2.76)	90 (3.54)	25 (0.98)	17.5 (0.69)	60 (2.36)	84 (3.31)	40 (1.58)	90 (3.54)	6.5 (0.26)	30 l/min 8 gpm	55 l/min 15 gpm	G 3/8	1.06 (2.34)
S	L4	L3	L2	L1	L	I	H4	H3	H2	H1	H	F	QR	QE	Y	Weight kg (lbs)

[mm (inches)]

Ordering code

0M.32.03	X	Y

Flow regulator,
3-way, pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R - T
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4

Type	Material number
0M3203700200000	R930004231
0M320370030000A	R930004232
0M3203700400000	R930004233
0M3203800200000	R930004241
0M320380030000A	R930004242
0M3203800400000	R930004244

Type	Material number
0M3203400200000	R930004220
0M320340030000A	R930004221
0M3203400400000	R930004224

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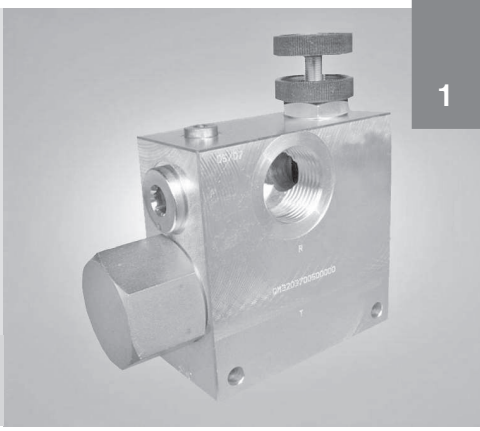
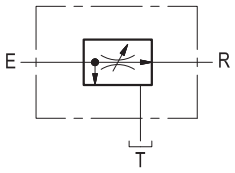
RE 18309-39/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated



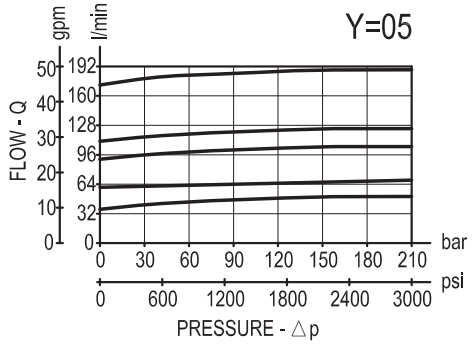
VRFC3 **0M.32.03 - X - 05**



Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not possible. Increasing or decreasing inlet flow may cause slight increase or decrease of Regulated flow.

Performance



Technical data

Hydraulic

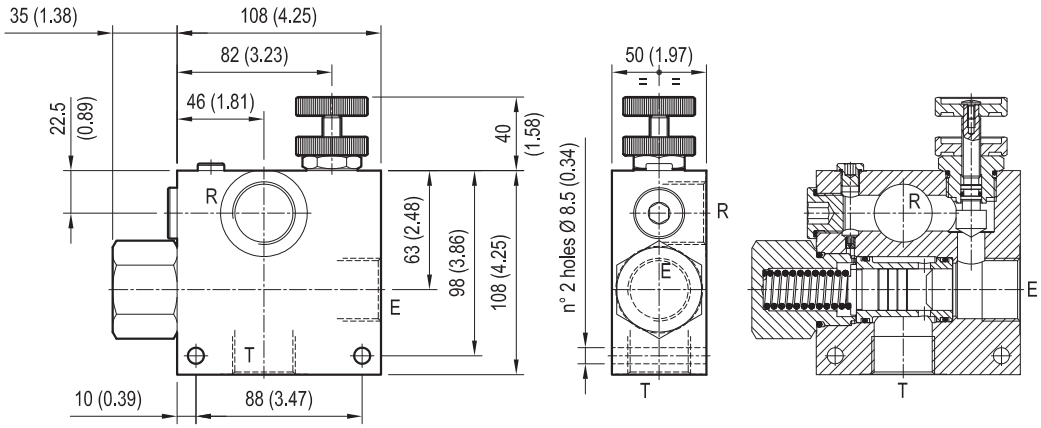
Operating pressure	bar (psi)	up to 210 (3000)
QE = max inlet flow “E” port 280 l/min (74 gpm)		
QR = max regulated flow “R” port 190 l/min (50 gpm)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight	kg (lbs)	1.95 (4.3)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

Ordering code

0M.32.03	X	05

Flow regulator,
3-way, pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes

E - R - T	
G 1	

Type	Material number
0M3203700500000	R930004235
0M3203800500000	R930004245
0M3203400500000	R930004225

Type	Material number

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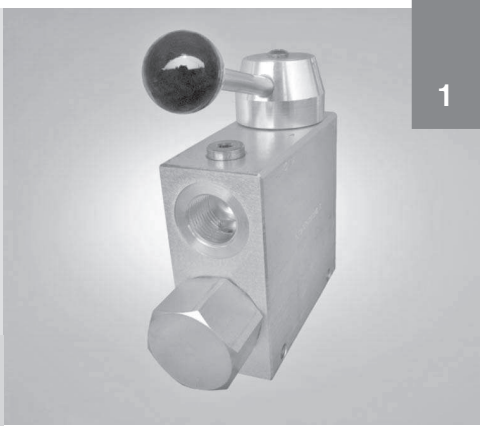
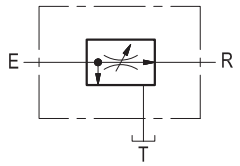
RE 18309-40/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated



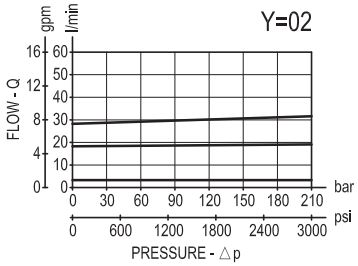
VRFC3-L **0M.32.03.50 - Y**

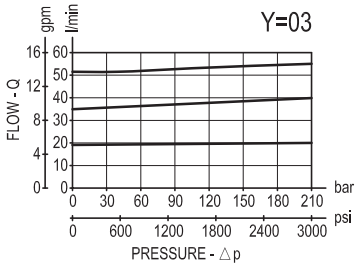


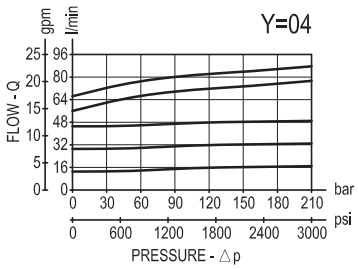
Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not possible. Increasing or decreasing inlet flow may cause slight increase or decrease of Regulated flow.

Performance







Technical data

Hydraulic

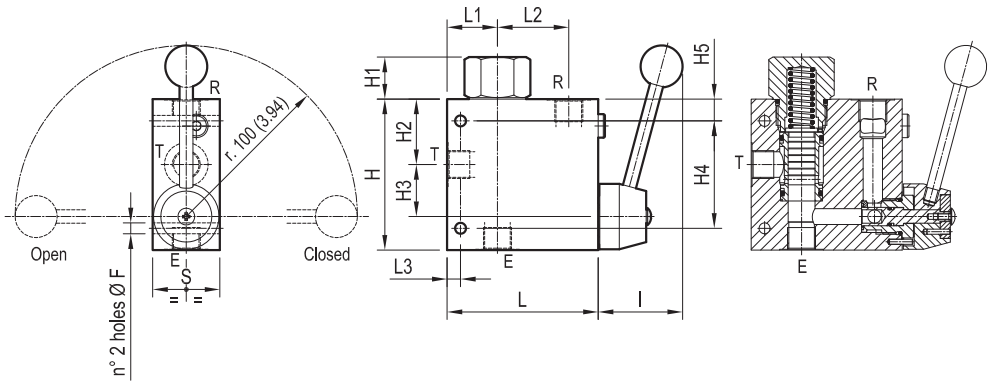
Operating pressure	bar (psi)	up to 210 (3000)
QE = max inlet flow “E” port (see “Dimensions”)		
QR = max regulated flow “R” port (see “Dimensions”)		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

50 (1.97)	7 (0.28)	50 (1.97)	35 (1.38)	108 (4.25)	50 (1.97)	10 (0.39)	88 (3.47)	35 (1.38)	44 (1.73)	25 (0.98)	108 (4.25)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	2.1 (4.6)
40 (1.58)	8 (0.32)	42.5 (1.67)	30 (1.18)	90 (3.54)	50 (1.97)	13 (0.51)	64 (2.52)	31 (1.22)	39 (1.54)	25 (0.98)	90 (3.54)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.13 (2.49)
40 (1.58)	8 (0.32)	42.5 (1.67)	30 (1.18)	90 (3.54)	50 (1.97)	13 (0.51)	64 (2.52)	31 (1.22)	39 (1.54)	25 (0.98)	90 (3.54)	6.5 (0.26)	30 l/min 8 gpm	55 l/min 15 gpm	G 3/8	1.13 (2.49)
S	L3	L2	L1	L	I	H5	H4	H3	H2	H1	H	F	QR	QE	Y	Weight Kg (lbs)

Ordering code

0M.32.03	50	Y

Flow regulator,
3-way, pressure compensated

Adjustments

Lever with built in friction clutch

Port sizes	E - R - T
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4

Type	Material number
0M3203500200000	R930004228
0M320350030000A	R930004229
0M3203500400000	R930004230

Type	Material number

Bosch Rexroth Oil Control S.p.A.
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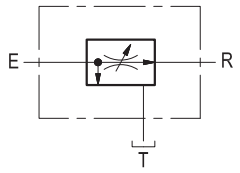
RE 18309-41/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated

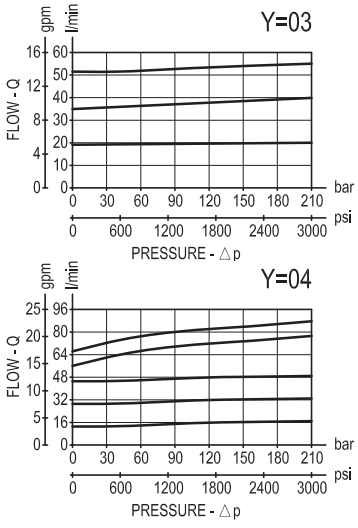
A-VRFC3 **0M.C2.03 - X - Y**



Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not possible. Increasing or decreasing inlet flow may cause slight increase or decrease of Regulated flow.

Performance



Technical data

Hydraulic

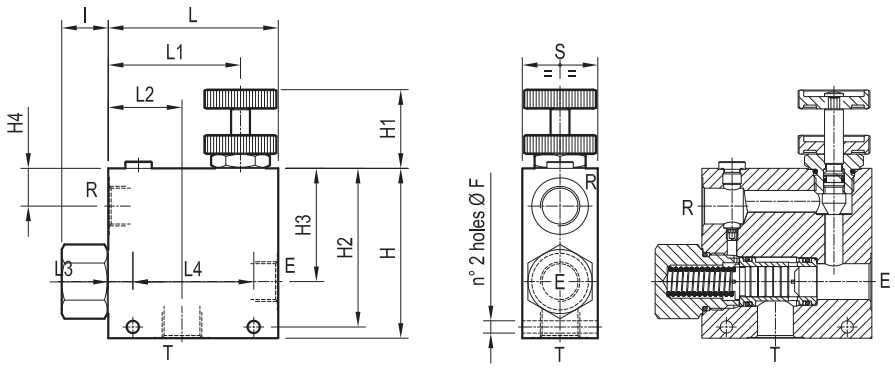
Max. operating pressure	bar (psi)	350 (5000)
QE = max inlet flow “E” port (see “Dimensions”)		
QR = max regulated flow “R” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Steel
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



50 (1.97)	88 (3.47)	10 (0.39)	44 (1.73)	79 (3.11)	108 (4.25)	21 (0.83)	23 (0.91)	73 (2.87)	101 (3.98)	40 (1.58)	108 (4.25)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	4.3 (9.5)
40 (1.58)	64 (2.52)	13 (0.51)	39 (1.54)	70 (2.76)	90 (3.54)	21 (0.83)	17.5 (0.69)	60 (2.36)	84 (3.31)	40 (1.58)	90 (3.54)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	2.1 (4.6)
S	L4	L3	L2	L1	L	I	H4	H3	H2	H1	H	F	QR	QE	Y	Weight kg (lbs)

[mm (inches)]

Ordering code

0M.C2.03	X	Y

Flow regulator,
3-way, pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R - T
= 03	G 1/2
= 04	G 3/4

Type	Material number
0MC20370030000A	R930004477
0MC203700400000	R930004478
0MC20380030000A	R930004480
0MC203800400000	R930006088
0MC20340030000A	R930004474
0MC203400400000	R930004475

Type	Material number

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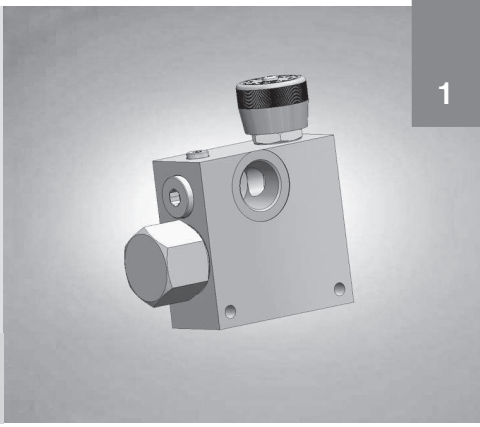
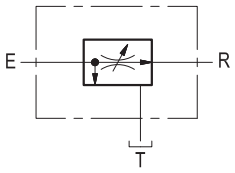
RE 18309-42/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated



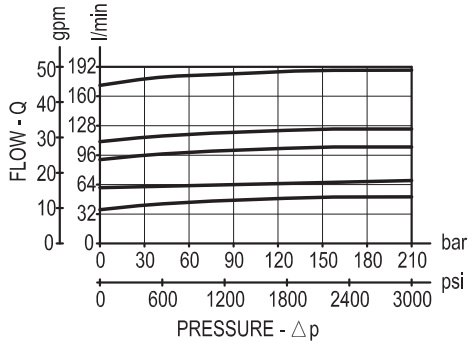
A-VRFC3 **0M.C2.03 - X - 05**



Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not possible. Increasing or decreasing inlet flow may cause slight increase or decrease of Regulated flow.

Performance



Technical data

Hydraulic

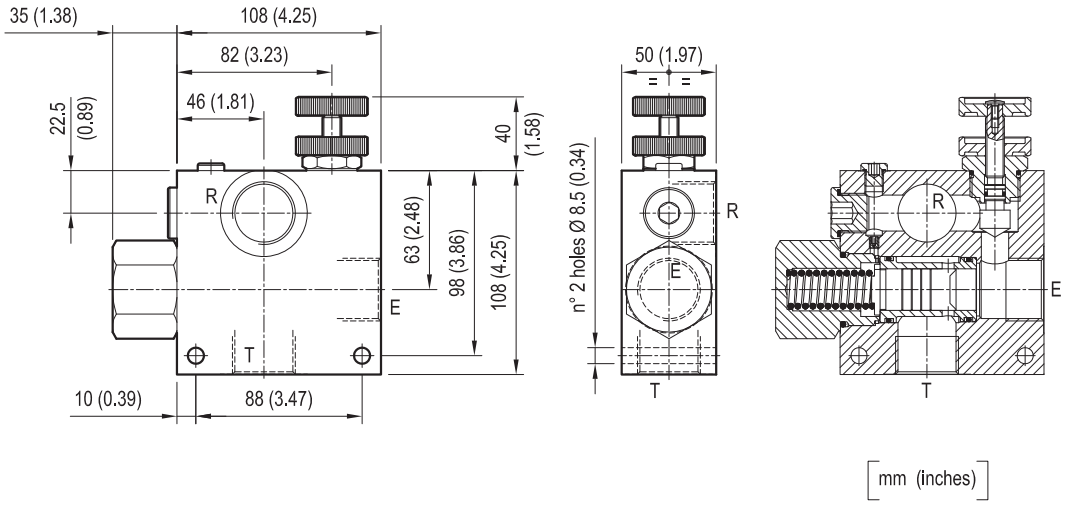
Max. operating pressure	bar (psi)	350 (5000)
QE = max inlet flow “E” port 280 l/min (74 gpm)		
QR = max regulated flow “R” port 190 l/min (50 gpm)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Steel
Weight	kg (lbs)	4.4 (9.7)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

Ordering code

0M.C2.03	X	05

Flow regulator,
3-way, pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes

05	E - R - T
	G 1

Type	Material number
0MC203700500000	R930004479
0MC203800500000	R930004481
0MC203400500000	R930004476

Type	Material number

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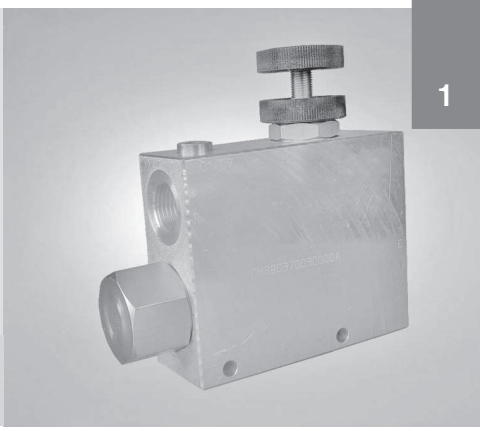
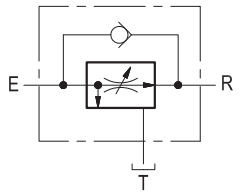
RE 18309-43/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated, with check valve for free reverse flow



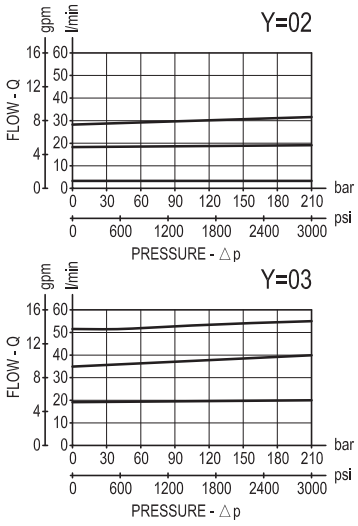
VRFC3-VU **0M.39.03 - X - Y**



Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not possible. Increasing or decreasing inlet flow may cause slight increase or decrease of Regulated flow.

Performance



Technical data

Hydraulic

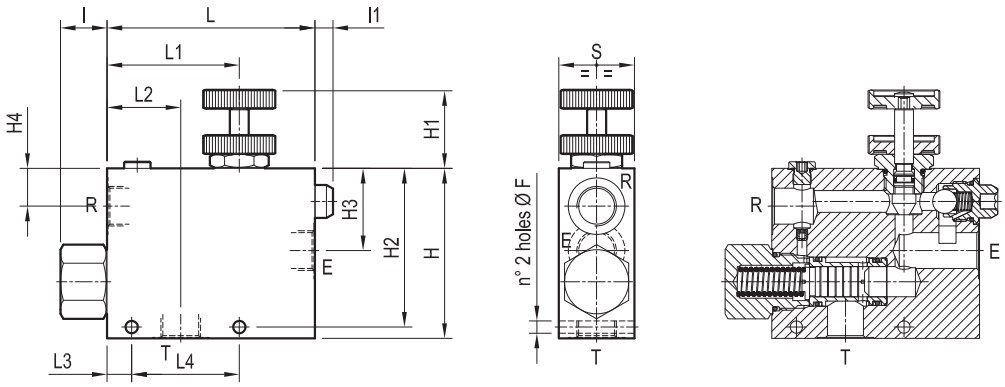
Operating pressure	bar (psi)	up to 210 (3000)
Max flow (see “Performance graph”)		
QE = max inlet flow “E” port (see “Dimensions”)		
QR = max regulated flow “R” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

40 (1.58)	57 (2.24)	13 (0.51)	39 (1.54)	70 (2.76)	110 (4.33)	10 (0.39)	25 (0.98)	17.5 (0.69)	43.5 (1.71)	84 (3.31)	40 (1.58)	90 (3.54)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.15 (2.54)
40 (1.58)	57 (2.24)	13 (0.51)	39 (1.54)	70 (2.76)	110 (4.33)	10 (0.39)	25 (0.98)	17.5 (0.69)	42 (1.65)	84 (3.31)	40 (1.58)	90 (3.54)	6.5 (0.26)	30 l/min 8 gpm	55 l/min 15 gpm	G 3/8	1.15 (2.54)
S	L4	L3	L2	L1	L	I1	I	H4	H3	H2	H1	H	F	QR	QE	Y	Weight kg (lbs)

Ordering code

0M.39.03	X	Y

Flow regulator,
3-way, pressure compensated,
check valve for free reverse flow

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R - T
= 02	G 3/8
= 03	G 1/2

Type	Material number
0M390370020000A	R930004298
0M390370030000A	R930004299
0M3903800200000	R930004301
0M390380030000A	R930004302
0M390340020000A	R930004293
0M3903400300000	R930004295

Type	Material number

Bosch Rexroth Oil Control S.p.A.
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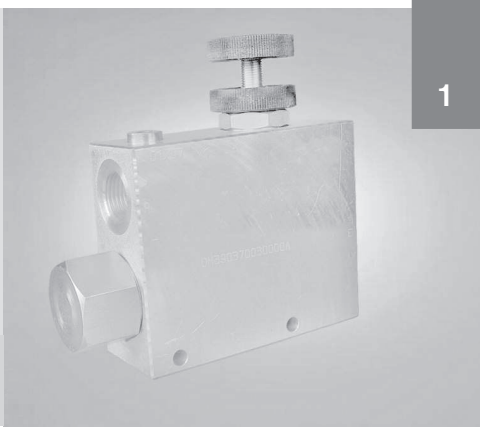
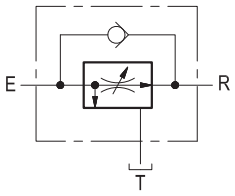
RE 18309-44/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated, with check valve for free reverse flow



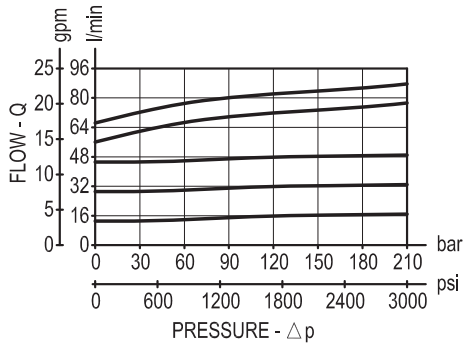
VRFC3-VU **0M.39.03 - X - 04**



Description

A constant flow rate, regardless of system pressures, is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not possible. Increasing or decreasing inlet flow may cause slight increase or decrease of Regulated flow.

Performance



Technical data

Hydraulic

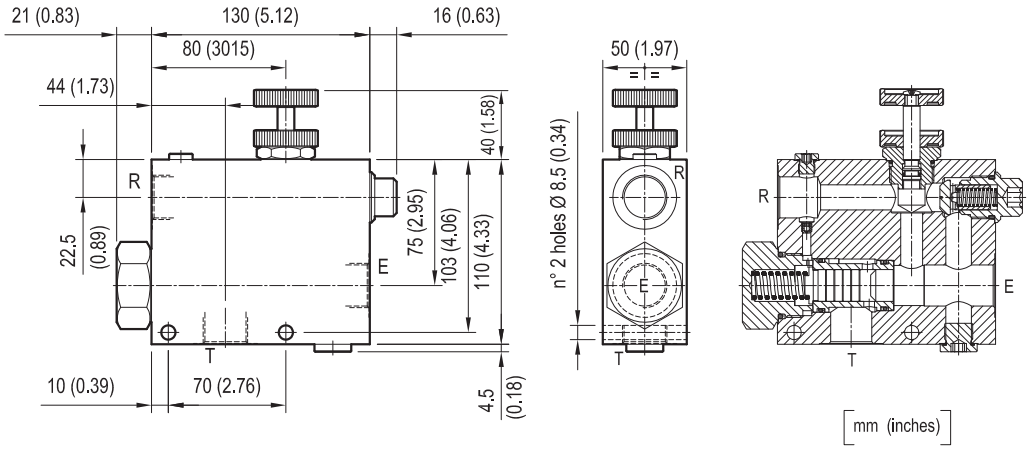
Operating pressure	bar (psi)	up to 210 (3000)
QE = max inlet flow “E” port 150 l/min (40 gpm)		
QR = max regulated flow “R” port 90 l/min (24 gpm)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight	kg (lbs)	2.15 (4.7)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.39.03	X	04

Flow regulator,
3-way, pressure compensated,
check valve for free reverse flow

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes

E - R - T
G 3/4

Type	Material number
0M390370040000A	R930004300
0M3903800400000	R930000380
0M390340040000A	R930004297

Type	Material number

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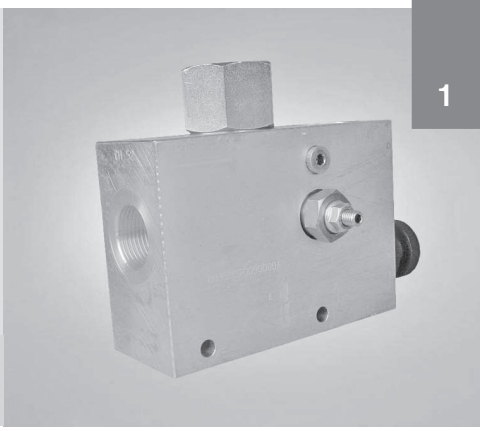
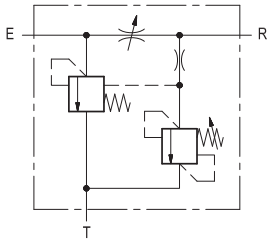
RE 18309-45/04.10 1/2
Replaces: RE 00171/02.07

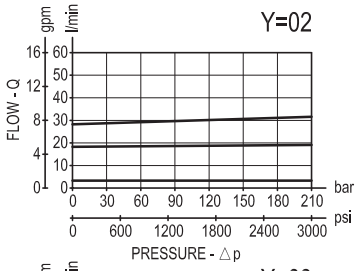
Flow regulator, 3-way, pressure compensated, with relief

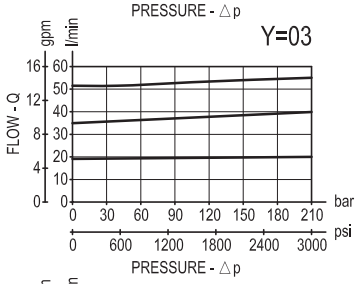


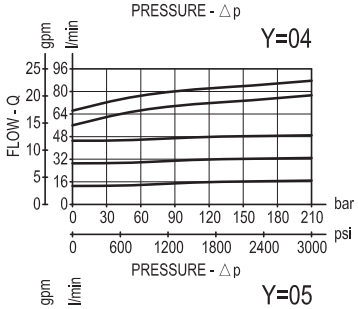
VRFC3-VS **0M.33.03 - X - Y**

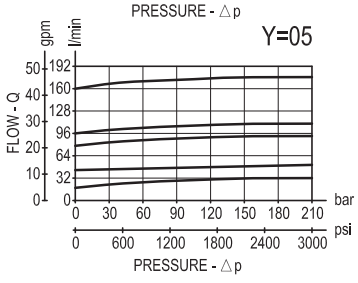


Performance









Description

A constant pressure compensated flow rate is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating for the valve. The valve module includes a small pilot relief cartridge which senses the pressure of the Regulated flow and diverts it to tank if the maximum allowed pressure is reached. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not permitted.

Technical data

Hydraulic

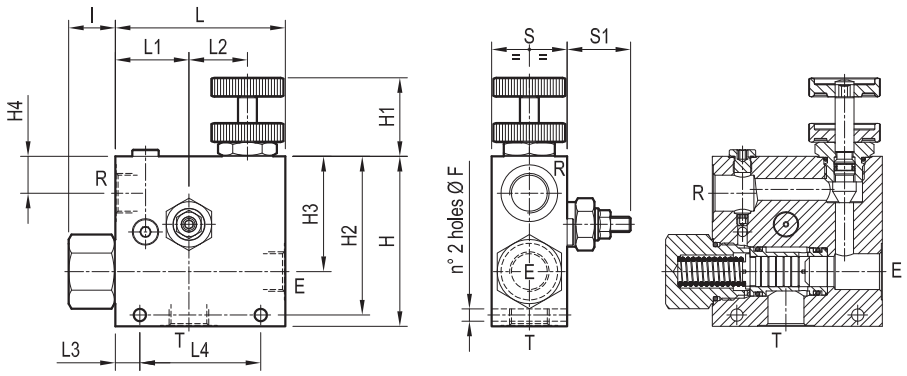
Max. pressure	bar (psi)	210 (3000)
Adj. relief valve: range 35-210 bar (500-3000 psi). Standard setting: 210 bar (3000 psi)		
QE = max inlet flow “E” port (see “Dimensions”)		
QR = max regulated flow “R” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



34 (1.34)	60 (2.36)	75 (2.95)	20 (0.79)	62 (2.44)	65 (2.56)	155 (6.1)	25 (0.98)	46 (1.81)	83 (3.27)	100 (3.94)	40 (1.58)	110 (4.33)	8.5 (0.34)	190 l/min 50 gpm	280 l/min 74 gpm	G 1	3.3 (7.3)
34 (1.34)	50 (1.97)	88 (3.47)	10 (0.39)	35 (1.38)	44 (1.73)	108 (4.25)	25 (0.98)	23 (0.91)	73 (2.87)	101 (3.98)	40 (1.58)	108 (4.25)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	2 (4.4)
34 (1.34)	40 (1.58)	64 (2.52)	13 (0.51)	31 (1.22)	39 (1.54)	90 (3.54)	25 (0.98)	17.5 (0.69)	60 (2.36)	84 (3.31)	40 (1.58)	90 (3.54)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.1 (2.42)
34 (1.34)	40 (1.58)	64 (2.52)	13 (0.51)	31 (1.22)	39 (1.54)	90 (3.54)	25 (0.98)	17.5 (0.69)	60 (2.36)	84 (3.31)	40 (1.58)	90 (3.54)	6.5 (0.26)	30 l/min 8 gpm	55 l/min 15 gpm	G 3/8	1.1 (2.42)
S1	S	L4	L3	L2	L1	L	I	H4	H3	H2	H1	H	F	QR	QE	Y	Weight kg (lbs)

[mm (inches)]

Ordering code

0M.33.03	X	Y

Flow regulator,
3-way, pressure compensated
with relief

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R - T
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4
= 05	G 1

Type	Material number
0M330370020000A	R930004260
0M330370030000A	R930004262
0M330370040000A	R930004263
0M330370050000A	R930004264
0M330380020000A	R930004266
0M330380030000A	R930004267
0M330380040000A	R930004268
0M330380050000A	R930004270

Type	Material number
0M330340020000A	R930004251
0M330340030000A	R930004252
0M330340040000A	R930004254
0M330340050000A	R930004255

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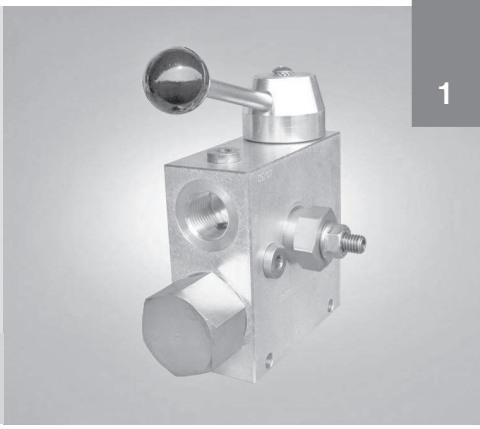
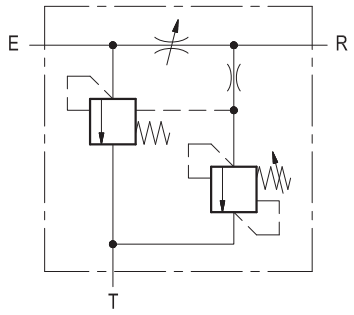
RE 18309-46/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated, with relief



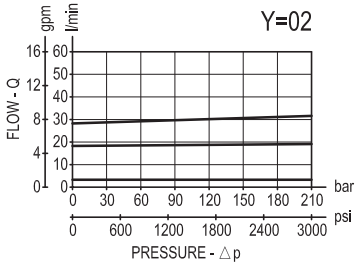
VRFC3-VS **0M.33.03.50 - Y**

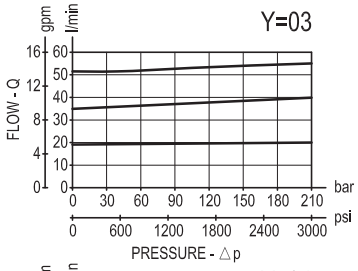


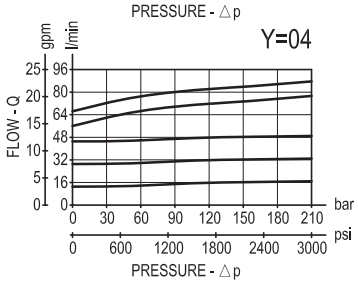
Description

A constant pressure compensated flow rate is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from zero (Closed) to the nominal maximum rating for the valve (Open). The valve module includes a small pilot relief cartridge which senses the pressure of the Regulated flow and diverts it to tank if the maximum allowed pressure is reached. Reverse flow from R to E is limited by the selected opening of the lever controlled restrictor and is not pressure compensated. Flow from T to E or from T to R is not permitted.

Performance







Technical data

Hydraulic

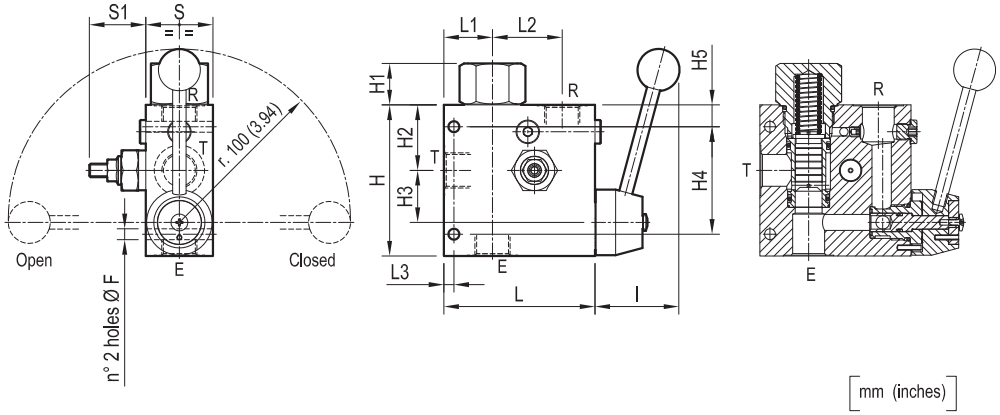
Operating pressure	bar (psi)	210 (3000)
Adj. relief valve: range 35-210 bar (500-3000 psi). Standard setting: 210 bar (3000 psi)		
QE = max inlet flow “E” port (see “Dimensions”)		
QR = max regulated flow “R” port (see “Dimensions”)		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



34 (1.34)	50 (1.97)	7 (0.28)	50 (1.97)	35 (1.38)	108 (4.25)	50 (1.97)	10 (0.39)	88 (3.47)	35 (1.38)	44 (1.73)	25 (0.98)	108 (4.25)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	2.2 (4.9)
34 (1.34)	40 (1.58)	6 0.24	42.5 (1.67)	30 (1.18)	90 (3.54)	50 (1.97)	13 (0.51)	64 (2.52)	31 (1.22)	39 (1.54)	25 (0.98)	90 (3.54)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.17 (2.58)
34 (1.34)	40 (1.58)	6 0.24	42.5 (1.67)	30 (1.18)	90 (3.54)	50 (1.97)	13 (0.51)	64 (2.52)	31 (1.22)	39 (1.54)	25 (0.98)	90 (3.54)	6.5 (0.26)	30 l/min 8 gpm	55 l/min 15 gpm	G 3/8	1.17 (2.58)
S1	S	L3	L2	L1	L	I	H5	H4	H3	H2	H1	H	F	QR	QE	Y	Weight kg (lbs)

Ordering code

0M.33.03	50	Y

Flow regulator,
3-way, pressure compensated
with relief

Adjustments

Lever with built in friction clutch

Port sizes	E - R - T
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4

Type	Material number
0M330350020000A	R930004256
0M330350030000A	R930004257
0M330350040000A	R930004258

Type	Material number

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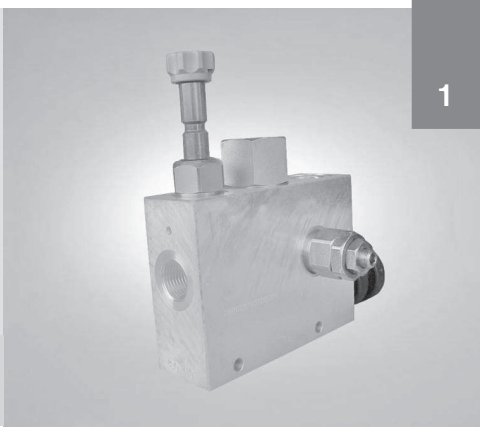
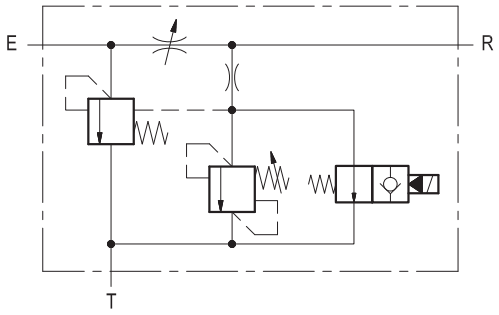
RE 18309-47/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated with relief and solenoid control



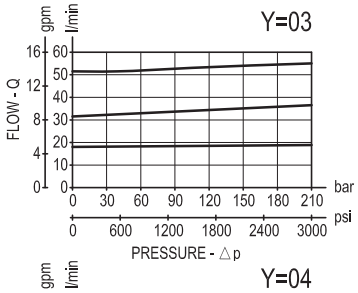
VRFC3-VS-VEI **0M.36.03 - X - Y**

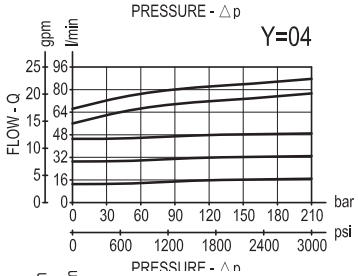


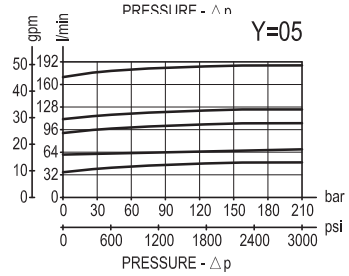
Description

A constant pressure compensated flow rate is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Output flow can be varied from closed to the nominal maximum rating of the valve and it can be dumped to Tank in two ways: 1) by a N.O. solenoid cartridge which determines Regulated flow dumping when de-energized; 2) by a pilot relief cartridge which determines Regulated flow dumping if the maximum allowed pressure is reached. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to E or from T to R is not permitted.

Performance







Technical data

Hydraulic

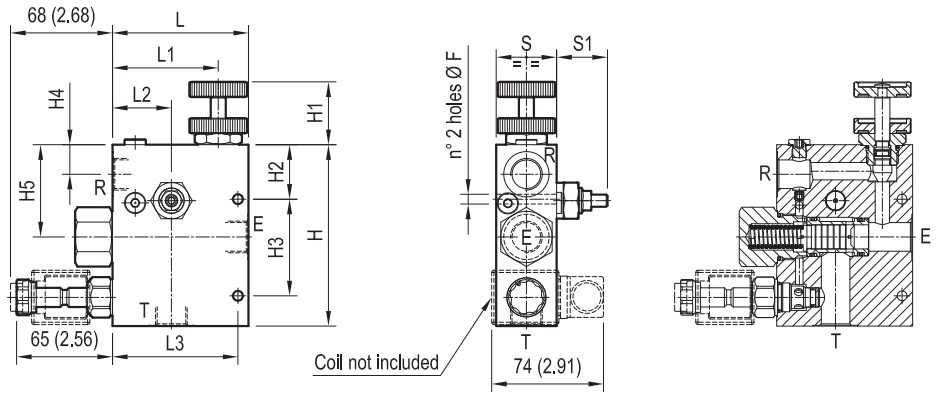
Operating pressure	bar (psi)	up to 210 (3000)
Adj. relief valve: range 35-210 bar (500-3000 psi) Standard setting: 210 bar (3000 psi)		
QE = max inlet flow “E” port (see “Dimensions”)		
QR = max regulated flow “R” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		
Pressure drop from E-T: cracking pressure 6 bar (90 psi), full flow 12 bar (175 psi)		
The coil must be ordered separately		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Viscosity		20 to 380 mm²/s (cSt)
Fluid temperature range	°C (°F)	between -20 (-4) and +80 (176)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



34 (1.34)	60 (2.36)	100 (3.94)	46 (1.81)	83 (3.27)	110 (3.94)	90 (3.54)	28 (1.1)	75 (2.95)	60 (2.36)	40 (1.58)	155 (6.1)	8.5 (0.34)	190 l/min 50 gpm	280 l/min 74 gpm	G 1	3.1 (6.8)
34 (1.34)	50 (1.97)	100 (3.94)	44 (1.73)	81 (3.19)	110 (4.33)	75 (2.95)	23 (0.91)	74 (2.91)	46 (1.81)	40 (1.58)	140 (5.51)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	2.7 (6)
34 (1.34)	40 (1.58)	83 (3.27)	39 (1.54)	70 (2.76)	90 (3.54)	60 (2.36)	17.5 (0.69)	64 (2.52)	36 (1.42)	40 (1.58)	120 (4.72)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.68 (3.7)
S1	S	L3	L2	L1	L	H5	H4	H3	H2	H1	H	F	QR	QE	Y	Weight kg (lbs)

Ordering code

0M.36.03	X	Y

Flow regulator,
3-way, pressure compensated
with relief and solenoid control

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R - T
= 03	G 1/2
= 04	G 3/4
= 05	G 1

Type	Material number
0M360370030000B	R930004278
0M360370040000B	R930004279
0M360370050000A	R930004280
0M3603800300000	R930000286
0M3603800400000	R930000346
0M3603800500000	R930000382
0M360340030000B	R930004276
0M3603400400000	R930000301

Type	Material number
0M360340050000B	R930004277

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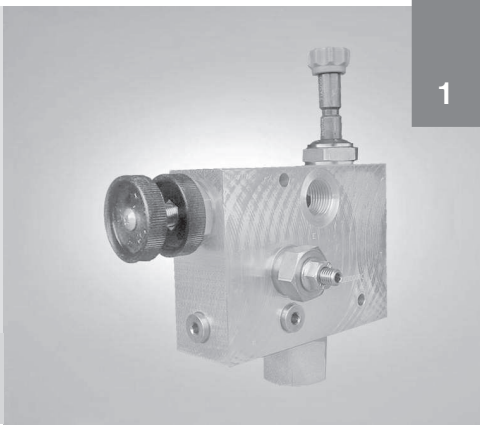
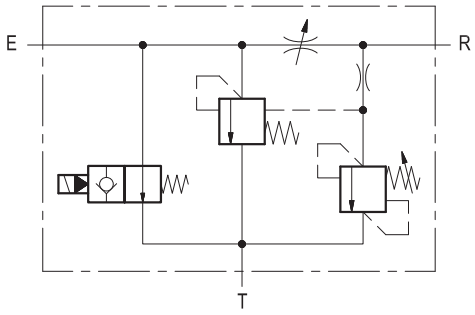
www.boschrexroth.com

RE 18309-48/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated, with relief and solenoid by-pass



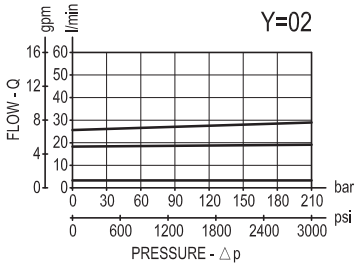
VRFC3-VS-BPE **0M.38.03 - X - Y**

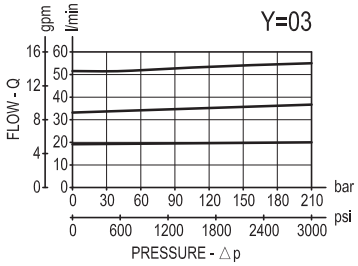


Description

A constant pressure compensated flow rate is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Regulated flow can be varied from closed to the nominal maximum rating of the valve and its pressure is controlled by a relief cartridge which will dump to Tank the output flow if the maximum pressure is reached. A normally open solenoid cartridge by-passes all Inlet flow to tank when de-energized. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to R is not permitted.

Performance





Technical data

Hydraulic

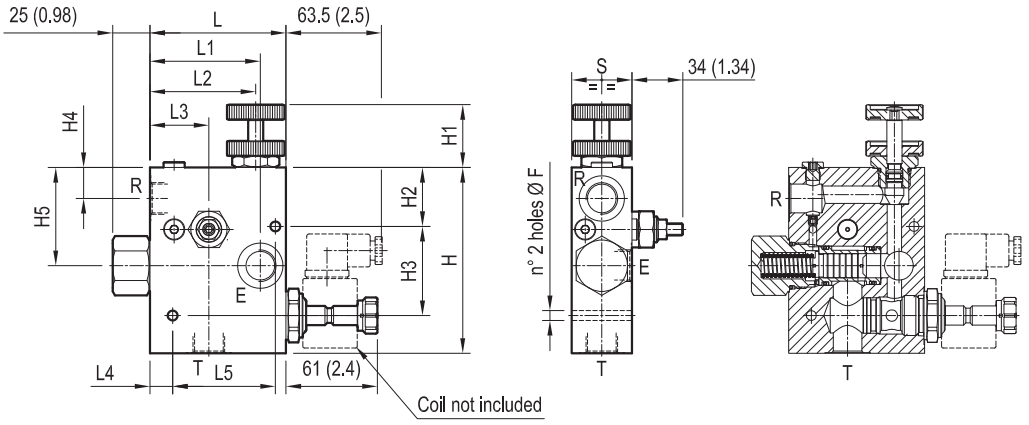
Operating pressure	bar (psi)	up to 210 (3000)
Adj. relief valve: range 35-210 bar (500-3000 psi) Standard setting: 210 bar (3000 psi)		
QE = max inlet flow “E” port (see “Dimensions”)		
QR = max regulated flow “R” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		
The coil must be ordered separately		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Viscosity		20 to 380 mm^2/s (cSt)
Fluid temperature range	°C (°F)	between -20 (-4) and +80 (176)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

40 (1.58)	68 (2.68)	15 (0.59)	39 (1.54)	70 (2.76)	73 (2.87)	90 (3.54)	65 (2.56)	20.5 (0.81)	59 (2.32)	39 (1.54)	40 (1.58)	123 (4.84)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.55 (3.42)
40 (1.58)	68 (2.68)	15 (0.59)	39 (1.54)	70 (2.76)	73 (2.87)	90 (3.54)	65 (2.56)	19.5 (0.77)	59 (2.32)	39 (1.54)	40 (1.58)	123 (4.84)	6.5 (0.26)	30 l/min 8 gpm	55 l/min 15 gpm	G 3/8	1.55 (3.42)
S	L5	L4	L3	L2	L1	L	H5	H4	H3	H2	H1	H	F	QR	QE	Y	Weight kg (lbs)

Ordering code

0M.38.03	X	Y

Flow regulator,
3-way, pressure compensated,
with relief and solenoid by-pass

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - R - T
= 02	G 3/8
= 03	G 1/2

Type	Material number
0M380370020000B	R930004286
0M380370030000C	R930004287
0M3803800200000	R930000466
0M380380030000B	R930004290
0M3803400200000	R930000465
0M380340030000B	R930004284

Type	Material number

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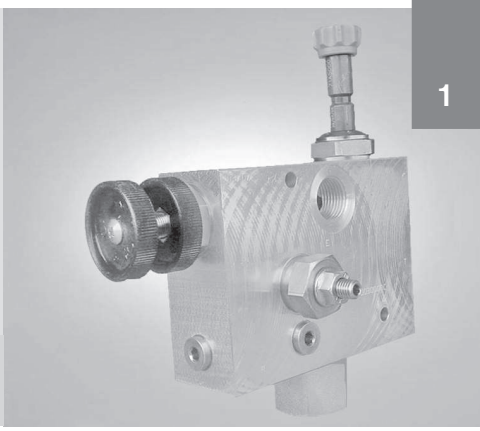
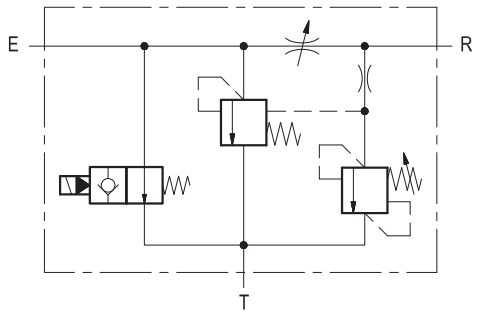
RE 18309-49/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, pressure compensated, with relief and solenoid by-pass



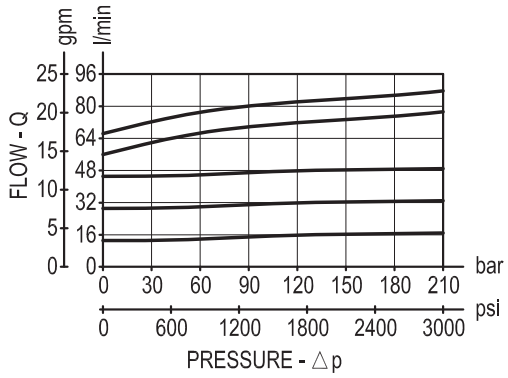
VRFC3-VS-BPE **0M.38.03 - X - 04**



Description

A constant pressure compensated flow rate is established from E to R, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. Input flow supplied to E in excess of the regulated output at R is by-passed to T. Regulated flow can be varied from closed to the nominal maximum rating of the valve and its pressure is controlled by a relief cartridge which will dump to Tank the output flow if the maximum pressure is reached. A normally open solenoid cartridge by-passes all Inlet flow to tank when de-energized. Reverse flow from R to E is limited by the selected opening of the restrictor and is not pressure compensated. Flow from T to R is not permitted.

Performance



Technical data

Hydraulic

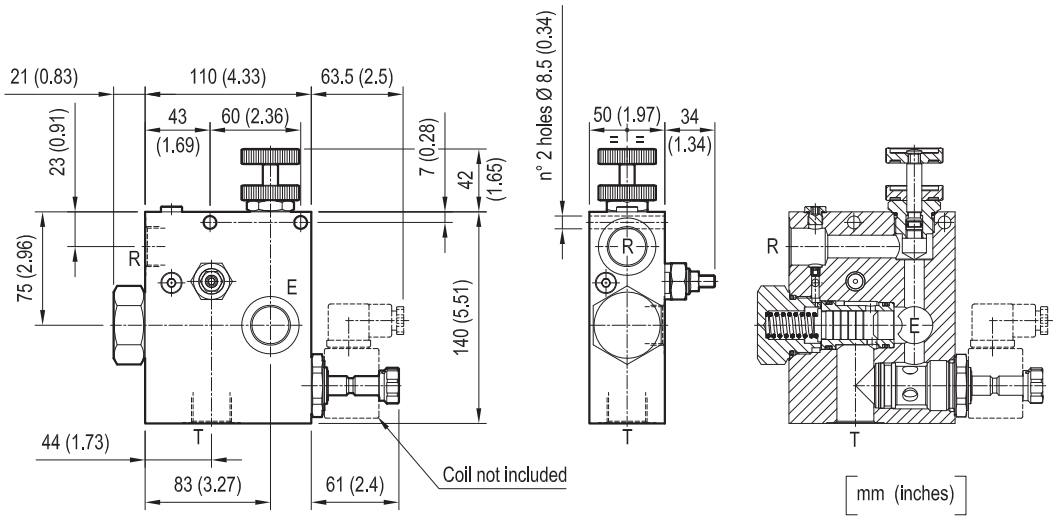
Operating pressure	bar (psi)	up to 210 (3000)
Adj. relief valve: range 35-210 bar (500-3000 psi) Standard setting: 210 bar (3000 psi)		
QE = max inlet flow “E” port 150 l/min (40 gpm)		
QR = max regulated flow “R” port 90 l/min (24 gpm)		
Flow range adjustment : 0 - 3 turns		
The coil must be ordered separately		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight	kg (lbs)	2.30 (5.1)
Viscosity		20 to 380 mm^2/s (cSt)
Fluid temperature range	°C (°F)	between -20 (-4) and +80 (176)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.38.03	X	04

Flow regulator,
3-way, pressure compensated,
with relief and solenoid by-pass

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes

E - R - T
G 3/4

Type	Material number
0M380370040000A	R930004289
0M3803800400000	R930000469
0M380340040000B	R930004285

Type	Material number

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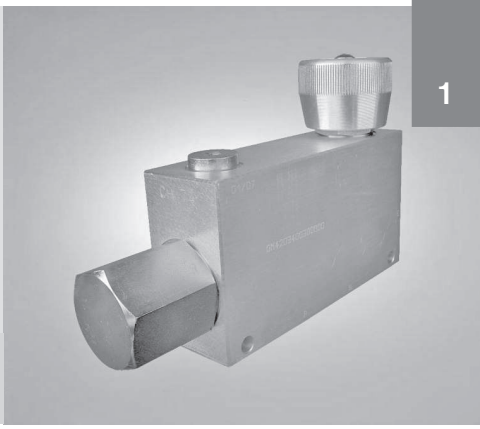
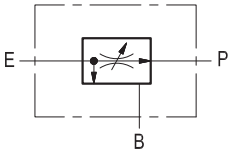
RE 18309-50/04.10 1/2
Replaces: RE 00171/02.07

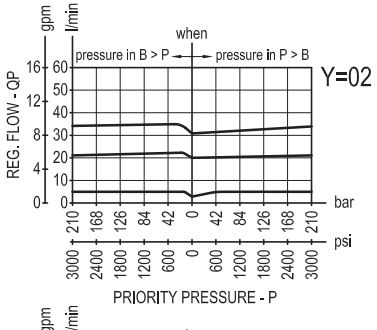
Flow regulator, 3-way, combination type, pressure compensated

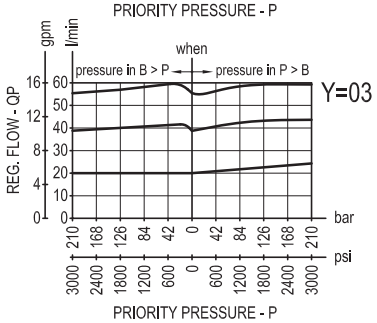


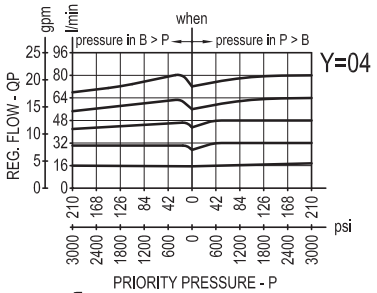
VRFC3C **0M.42.03 - X - Y**

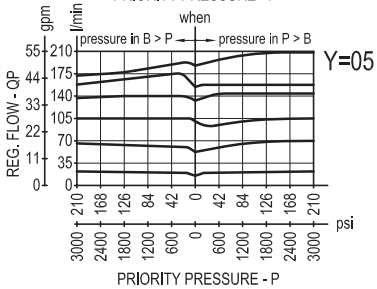


Performance









Description

A constant priority flow, regardless of system pressures, is established from E to P, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. While the regulated priority flow from P is used in the priority circuit, the flow supplied to E in excess of priority is by-passed to B port and can be sent to power other actuators. Priority flow can be varied from closed to the nominal maximum rating of the valve. Reverse flow from P to E is limited by the selected opening of the restrictor and is not pressure compensated. Reverse flow from B is not permitted.

Technical data

Hydraulic

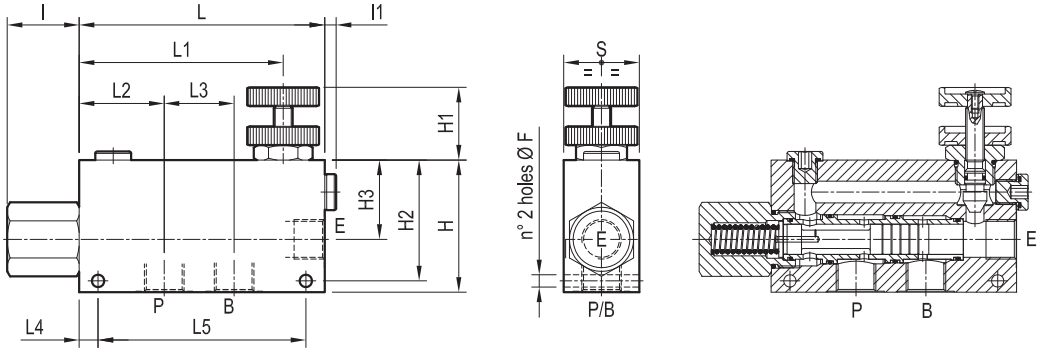
Operating pressure	bar (psi)	up to 210 (3000)
QE = max inlet flow “E” port (see “Dimensions”)		
QP = max priority flow “P” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



70 (2.76)	130 (5.12)	10 (0.39)	56.5 (2.22)	48 (1.89)	122.5 (4.82)	150 (5.91)	6 (0.24)	54 (2.13)	65 (2.56)	120 (4.72)	40 (1.58)	130 (5.12)	8.5 (0.34)	190 l/min 50 gpm	380 l/min 100 gpm	G 1	4.4 (9.7)
50 (1.97)	135 (5.32)	10 (0.39)	44 (1.73)	54 (2.13)	130 (5.12)	155 (6.1)	6 (0.24)	35 (1.38)	55 (2.17)	83 (3.27)	40 (1.58)	90 (3.54)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	2.5 (5.5)
40 (1.58)	110 (4.33)	10 (0.39)	37 (1.46)	45 (1.77)	108 (4.25)	130 (5.12)	6 (0.24)	38 (1.5)	42 (1.65)	64 (2.52)	40 (1.58)	70 (2.76)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.3 (2.87)
40 (1.58)	110 (4.33)	10 (0.39)	37 (1.46)	45 (1.77)	108 (4.25)	130 (5.12)	6 (0.24)	38 (1.5)	42 (1.65)	64 (2.52)	40 (1.58)	70 (2.76)	6.5 (0.26)	30 l/min 8 gpm	55 l/min 15 gpm	G 3/8	1.3 (2.87)
S	L5	L4	L3	L2	L1	L	I1	I	H3	H2	H1	H	F	QP	QE	Y	Weight kg (lbs)

mm (inches)

Ordering code

0M.42.03	X	Y

Flow regulator,
3-way, combination type,
pressure compensated

Adjustments

= 70	Handknob and locknut	
= 80	Screw and locknut	
= 40	Graduated handknob	

Port sizes	E - B - P
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4
= 05	G 1

Type	Material number
0M4203700200000	R930004324
0M4203700300000	R930004325
0M4203700400000	R930004328
0M4203700500000	R930004329
0M4203800200000	R930004332
0M4203800300000	R930004333
0M4203800400000	R930004334
0M4203800500000	R930004336

Type	Material number
0M4203400200000	R930004317
0M4203400300000	R930004318
0M4203400400000	R930004319
0M4203400500000	R930004320

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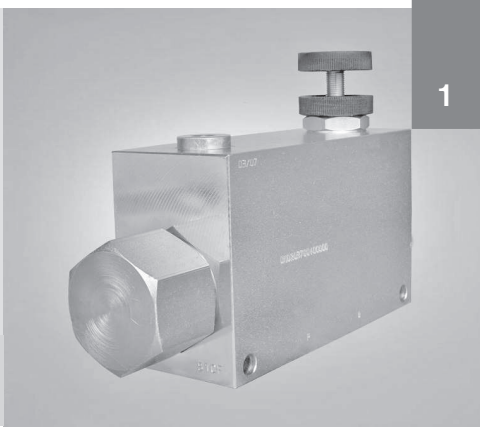
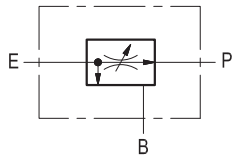
motion-control-valves@oilcontrol.com
www.boschrexroth.com

RE 18309-51/04.10 1/2
Replaces: RE 00171/02.07

Flow regulator, 3-way, combination type, pressure compensated



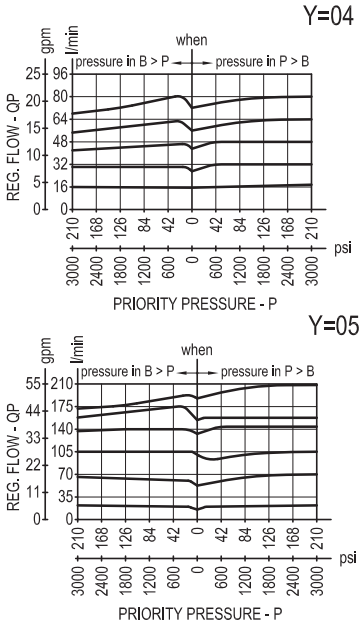
A-VRFC3C **0M.D2.03 - X - Y**



Description

A constant priority flow, regardless of system pressures, is established from E to P, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. While the regulated priority flow from P is used in the priority circuit, the flow supplied to E in excess of priority is by-passed to B port and can be sent to power other actuators. Priority flow can be varied from closed to the nominal maximum rating of the valve. Reverse flow from P to E is limited by the selected opening of the restrictor and is not pressure compensated. Reverse flow from B is not permitted.

Performance



Technical data

Hydraulic

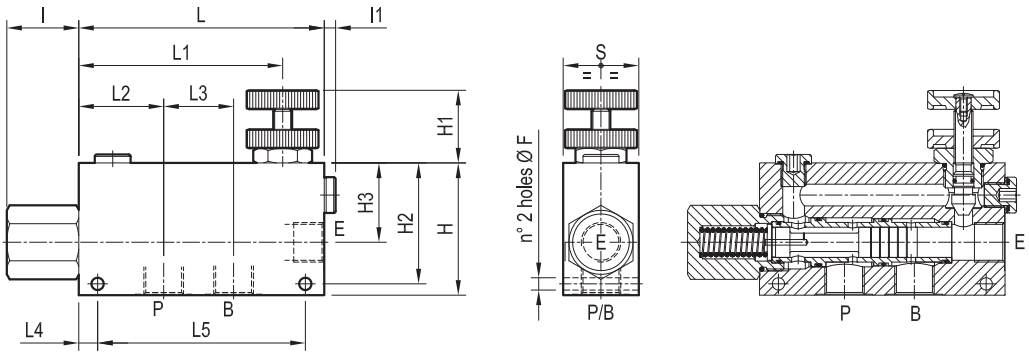
Max. operating pressure	bar (psi)	350 (5000)
QE = max inlet flow “E” port (see “Dimensions”)		
QP = max priority flow “P” port (see “Dimensions”)		
Flow range adjustment : 0 - 3 turns		

General

Manifold material		Steel
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



mm (inches)

70 (2.76)	130 (5.12)	10 (0.39)	56.5 (2.22)	48 (1.89)	122.5 (4.82)	150 (5.91)	6 (0.24)	38 (1.5)	65 (2.56)	120 (4.72)	40 (1.58)	130 (5.12)	8.5 (0.34)	190 l/min 50 gpm	380 l/min 100 gpm	G 1	9,9 (21.8)
50 (1.97)	135 (5.32)	10 (0.39)	44 (1.73)	54 (2.13)	130 (5.12)	155 (6.1)	6 (0.24)	38 (1.5)	55 (2.17)	83 (3.27)	40 (1.58)	90 (3.54)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	5.4 (11.9)
S	L5	L4	L3	L2	L1	L	I1	I	H3	H2	H1	H	F	QP	QE	Y	Weight kg (lbs)

Ordering code

0M.D2.03	X	Y

Flow regulator,
3-way, combination type,
pressure compensated

Adjustments

= 70 Handknob and locknut

Port sizes	E - B - P
= 04	G 3/4
= 05	G 1

Type	Material number
0MD203700400000	R930004488
0MD203700500000	R930004490

Type	Material number

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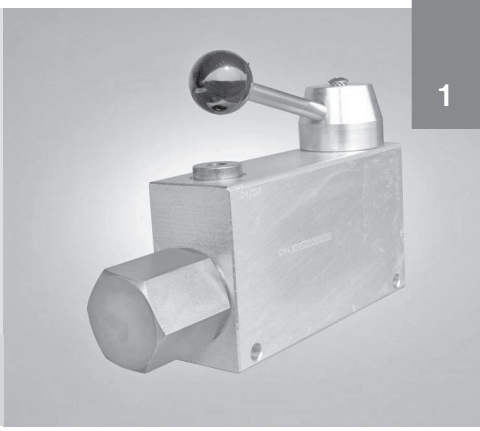
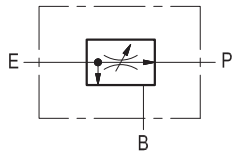
motion-control-valves@oilcontrol.com
www.boschrexroth.com

RE 18309-52/04.10 1/2
Replaces: RE 00171/02.07

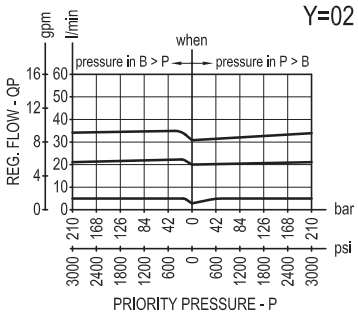
Flow regulator, 3-way, combination type pressure compensated

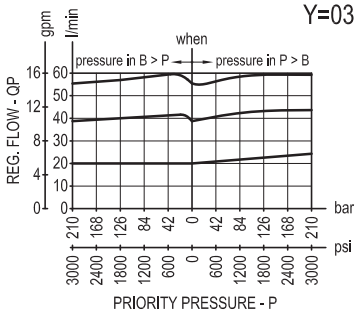


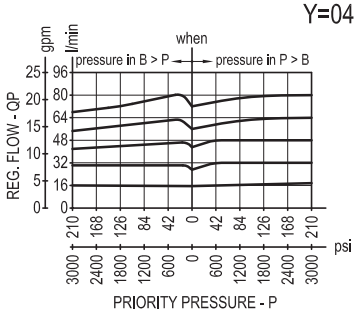
VRFC3C **0M.42.03.50 - Y**



Performance







Description

A constant priority flow, regardless of system pressures, is established from E to P, while a minimum pressure differential of appr. 5 bar (70 psi) exists between the two ports. While the regulated priority flow from P is used in the priority circuit, the flow supplied to E in excess of priority is by-passed to port B and can be sent to power other actuators. Priority flow can be varied from zero (Closed) to the nominal maximum rating for the valve (Open). Reverse flow from P to E is limited by the selected opening of the restrictor and is not pressure compensated. Reverse flow from B is not permitted.

Technical data

Hydraulic

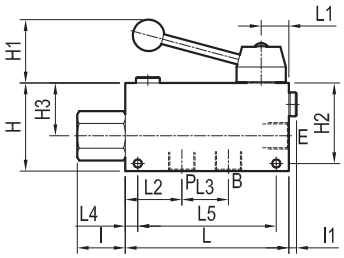
Operating pressure	bar (psi)	up to 210 (3000)
QE = max inlet flow “E” port (see “Dimensions”)		
QP = max priority flow “P” port (see “Dimensions”)		

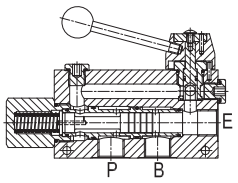
General

Manifold material		Aluminium
Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.		
Weight		see “Dimensions”
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

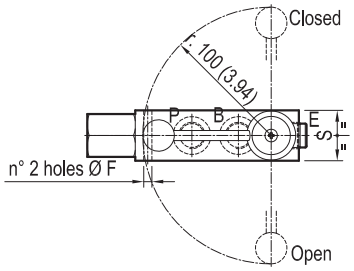
Note: for applications outside these parameters, please consult us.

Dimensions





[mm (Inches)]



50 (1.97)	135 (5.32)	10 (0.39)	44 (1.73)	54 (2.13)	25 (0.98)	155 (6.1)	6 (0.24)	38 (1.5)	55 (2.17)	83 (3.27)	50 (1.97)	90 (3.54)	8.5 (0.34)	90 l/min 24 gpm	150 l/min 40 gpm	G 3/4	2.6 (5.7)
40 (1.58)	110 (4.33)	10 (0.39)	37 (1.46)	45 (1.77)	22 (0.87)	130 (5.12)	6 (0.24)	38 (1.5)	42 (1.65)	64 (2.52)	50 (1.97)	70 (2.76)	6.5 (0.26)	55 l/min 15 gpm	90 l/min 24 gpm	G 1/2	1.4 (3.1)
40 (1.58)	110 (4.33)	10 (0.39)	37 (1.46)	45 (1.77)	22 (0.87)	130 (5.12)	6 (0.24)	38 (1.5)	42 (1.65)	64 (2.52)	50 (1.97)	70 (2.76)	6.5 (0.26)	30 l/min 8 gpm	55 l/min 15 gpm	G 3/8	1.4 (3.1)
S	L5	L4	L3	L2	L1	L	l1	l	H3	H2	H1	H	F	QP	QE	Y	Weight kg (lbs)

Ordering code

0M.42.03	50	Y

Flow regulator,
3-way, combination type,
pressure compensated

Adjustments

Lever with built in friction clutch

Port sizes	E - B - P
= 02	G 3/8
= 03	G 1/2
= 04	G 3/4

Type	Material number
0M420350020000A	R930000033
0M4203500300000	R930004322
0M4203500400000	R930004323

Type	Material number

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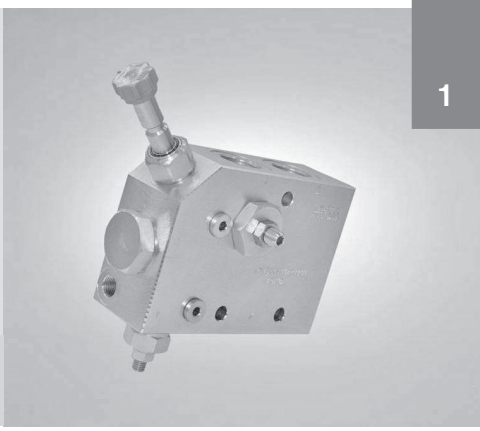
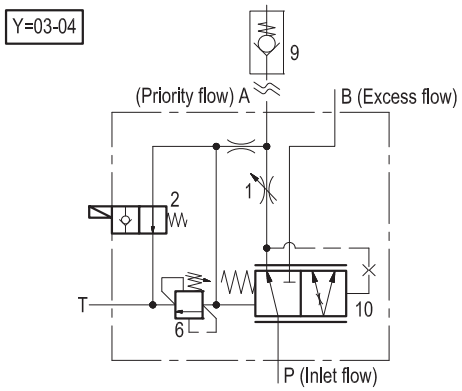
www.boschrexroth.com

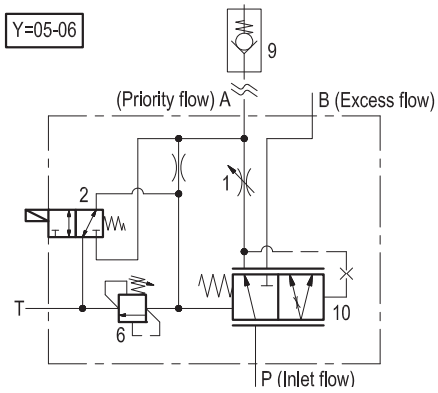
RE 18309-53/06.10
Replaces: RE 18309-53/04.10

3-Way heavy duty flow control, with pressure compensated and solenoid controlled priority flow



A-VRFC3C-VEI-VS **0M.43.20.80 - Y - Z**





Description

The flow control valves series “A-VRFC3C-VEI-VS” are 3 way, with one inlet “P” and two outlets “A” and “B”, the first outlet “A” being priority, pressure compensated type, with pressure relief valve and available on demand through a solenoid cartridge; the second outlet “B” is the by-pass for all flow in excess of what demanded by priority. Both flows from “A” and “B” ports can be employed to power different functions of the machine.
These valves provide a simple and efficient way to power hydraulic tools (such as hydraulic hammers) from the existing hydraulic system, without any need to modify the directional control valve.
They allow the simultaneous operations, independently from the respective working pressures, of both the hydraulic actuator powered by the priority outlet “A”, and of the normal functions of the machine (traction, slewing, cylinder motions, etc.) supplied by the main directional valve through the by-pass outlet “B”.

Technical data

Hydraulic

Max. operating pressure	bar (psi)	350 (5000)
Max. priority line pressure: limited by relief valve (6). See “priority pressure range” table on page 5.		
Back pressure at T port	bar (psi)	max 1.5 (20)
Drain from T, with solenoid valve non-energized	l/min (gpm)	up to 1.5 (0.4)

General

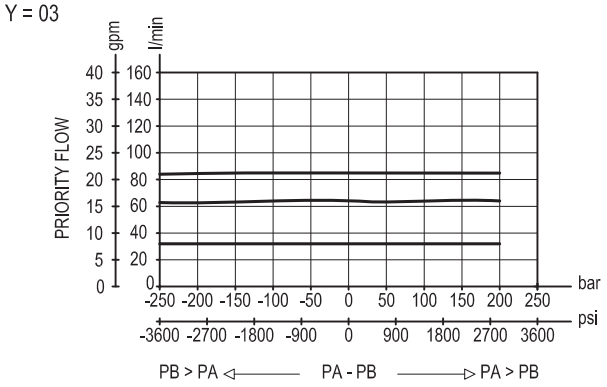
Manifold material		Steel
Weight		See “Dimensions”
Viscosity		20 to 380 mm²/s (cSt)
Fluid temperature range	°C (°F)	between -20 (-4) and +80 (176)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

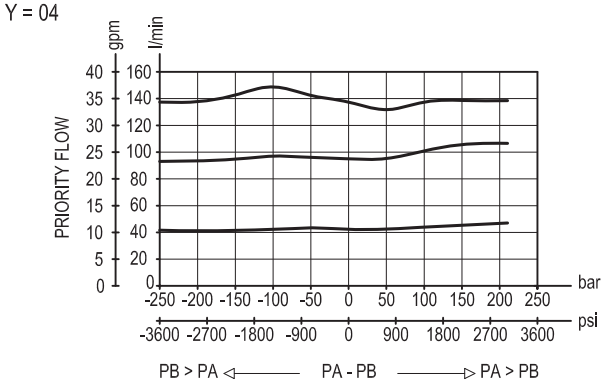
Performance graphs

Priority Flow vs Pressure

Y = 03



Y = 04



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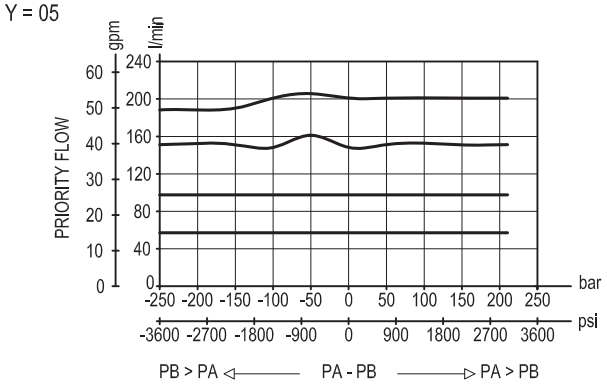

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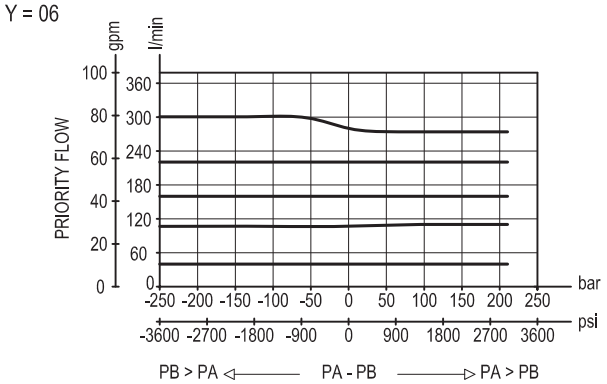
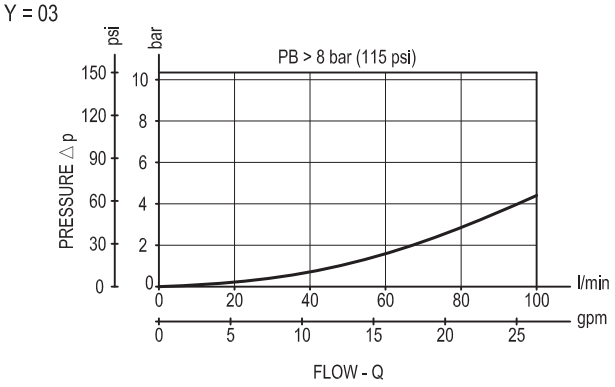
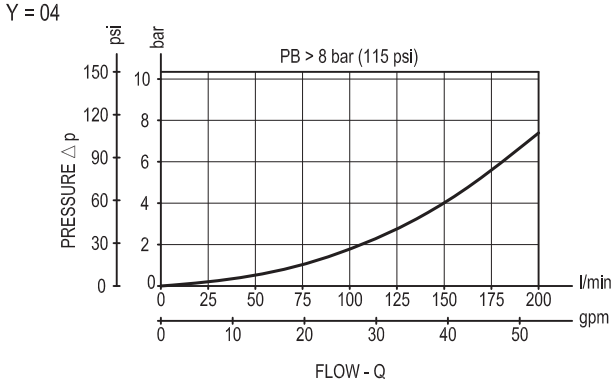


By-pass line pressure drop

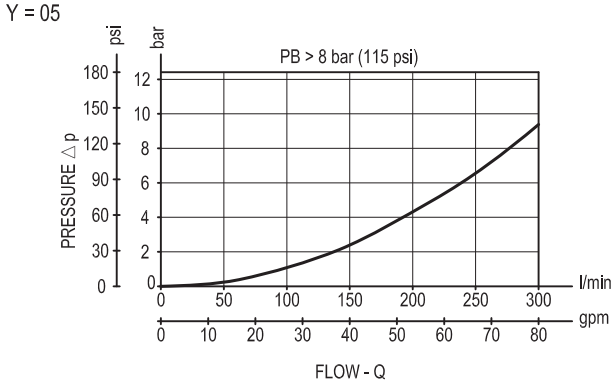
Y = 03



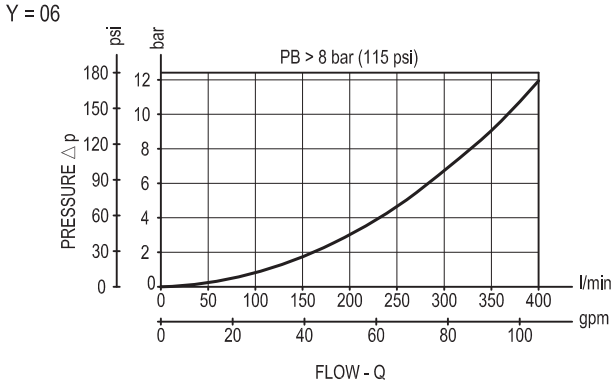
Y = 04



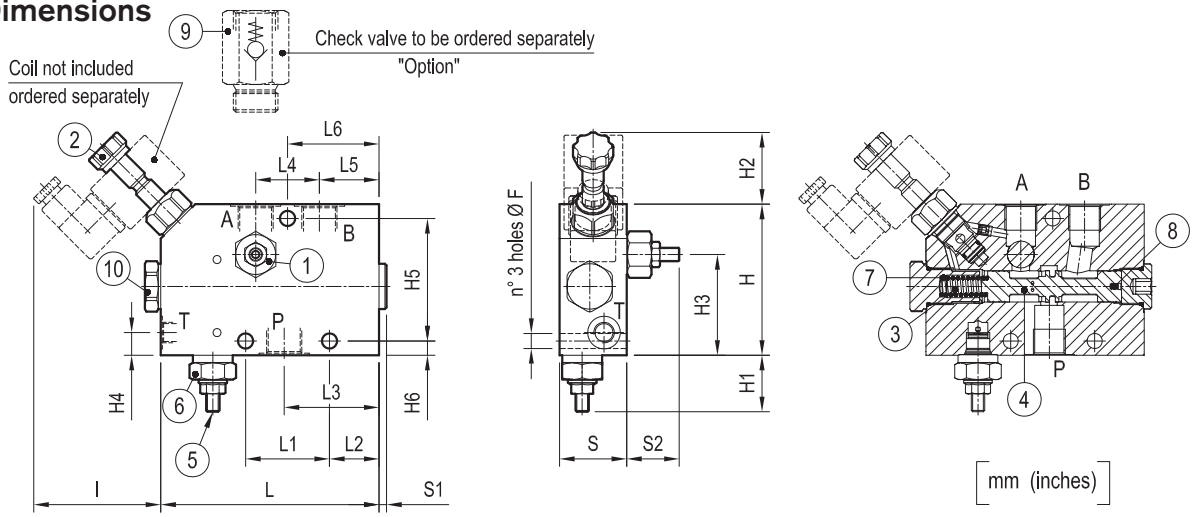
Y = 05



Y = 06



Dimensions



32 (1.26)	5 (0.2)	70 (2.76)	86 (3.39)	54.5 (2.15)	62.5 (2.46)	88.5 (3.48)	48 (1.89)	76 (2.99)	190 (7.48)	68 (2.68)	18 (0.71)	90 (3.54)	14 (0.55)	92 (3.62)	41 (1.61)	34 (1.34)	130 (5.12)	9 (0.35)	G 1-1/4	12.5 (27.5)
32 (1.26)	5 (0.2)	60 (2.36)	74.5 (2.93)	46.5 (1.83)	56.5 (2.22)	78 (3.07)	36.5 (1.44)	76 (2.99)	173 (6.81)	68 (2.68)	15 (0.59)	90 (3.54)	13.5 (0.53)	80.5 (3.17)	41 (1.61)	34 (1.34)	120 (4.72)	9 (0.35)	G 1	9 (19.8)
32 (1.26)	5 (0.2)	50 (1.97)	59 (2.32)	37 (1.46)	44 (1.73)	61 (2.4)	34 (1.34)	50 (1.97)	140 (5.51)	73 (2.87)	13.5 (0.53)	73 (2.87)	13 (0.51)	69.5 (2.74)	41 (1.61)	34 (1.34)	100 (3.94)	9 (0.35)	G 3/4	4.8 (10.6)
32 (1.26)	5 (0.2)	40 (1.58)	54.5 (2.15)	35.5 (1.4)	38 (1.5)	56.5 (2.22)	29.5 (1.16)	50 (1.97)	130 (5.12)	76 (2.99)	8.5 (0.34)	73 (2.87)	12.5 (0.49)	60 (2.36)	41 (1.61)	34 (1.34)	90 (3.54)	8.5 (0.34)	G 1/2	3.4 (7.5)
S2	**S1**	**S**	**L6**	**L5**	**L4**	**L3**	**L2**	**L1**	**L**	**I**	**H6**	**H5**	**H4**	**H3**	**H2**	**H1**	**H**	**F**	**Port sizes**	**Weight** kg (lbs)

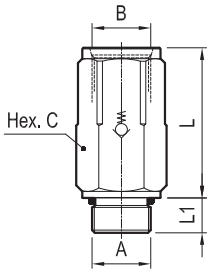
Fitting and connections

When positioning and tightening the valve, avoid any deflection of the body which could prevent the internal spool from sliding freely and impair the metering performance; it is recommended to use the 3 available fixation holes as locating points and to fit 3 equal spacers (metal washers), one on each point, between the valve body and the supporting structure.

Connections to the hydraulic system:

- Port “P” (inlet) to the main line from the pump.
- Port “A” (priority outlet) to the line feeding the hydraulic hammer, or the attachment. Important: for the correct metering of the compensating spool the priority outlet shall be always pressurized, with a back-pressure of at least 8-9 bar (115-130 psi); if necessary, fit a check valve with the needed cracking pressure.
- Port “B” (by-pass, or excess flow outlet) to the line delivering the oil to the main directional valve.
- Port “T” to a tank line. It is absolutely necessary that port “T” is connected to a low pressure tank line, 1-1.5 bar max (15-22 psi max).

Sleeve type check valves



Port sizes A - B	Cracking pressure bar (psi)	Dimensions mm (inches)			Ordering code
		C	L	L1	
G 1/2	8 (115)	30 (1.18)	57 (2.24)	14 (0.55)	043117000301000 R930000444
G 3/4	8 (115)	36 (1.42)	69 (2.72)	16 (0.63)	043117000401000 R930000445
G 1	8 (115)	46 (1.81)	82 (3.23)	18 (0.71)	043117000501000 R930000446
G 1 1/4	8 (115)	55 (2.17)	102 (4.02)	20 (0.79)	043117000601000 R930000447

Adjustment of priority flow

The volume of priority flow from port “A” can be easily modified by turning the screw (1): the flow increases by turning the screw counter-clockwise and, once adjusted to the desired level, it remains constant independently from the working pressure.

Adjustment of maximum priority pressure

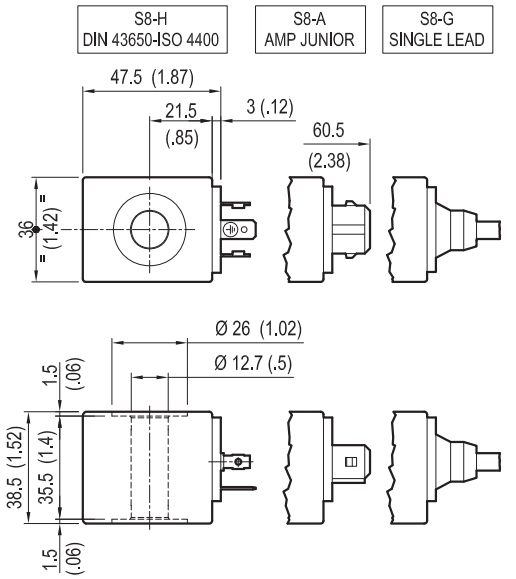
The maximum pressure in the priority line “A” can be adjusted by turning the screw (5) of the small relief cartridge (6) which controls the maximum pressure in the chamber (3): when this “pilot” cartridge opens, the pressure in chamber (3) drops and the priority flow is stopped.

Note: the relief cartridge (6) controls only the maximum pressure in the priority outlet “A”, and does not control the pressure in the by-pass and main line: the main line must be protected by another relief valve, capable to discharge the full oil flow.

Ordering code: **OD.02.17 - X - Y - Z**

COILS

Attention: indicated coils fit every hammer valve versions

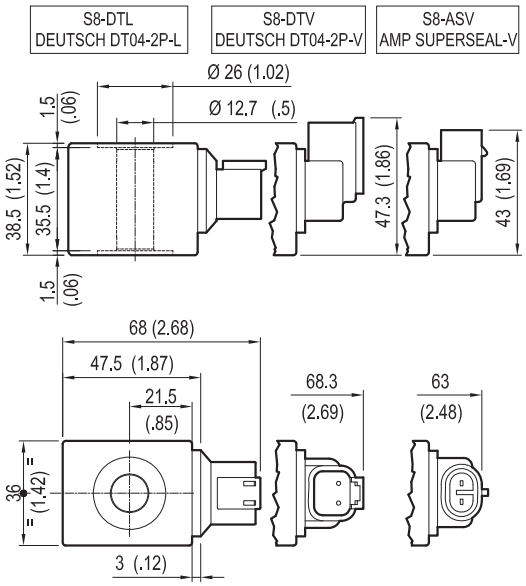


TECHNICAL DATA
Weight: 0.180 kg (0.4 lbs)
Encapsulating material: IXEF
Heat insulation Class H: 180°C (356°F)
Ambient temperature range: -30/+60°C (-86/+140°F)
Inlet voltage fluctuations must not exceed ±10% of nominal voltage to obtain correct operation and long life coils.

X	Y	Connections	Circuit	Voltage
01	30	DIN 43650 - ISO 4400	Standard	DC-RAC
07	30	AMP JUNIOR	Standard	DC only
0G	03	SINGLE LEAD	Standard	DC only *
14	30	DIN 43650 - ISO 4400	Bidirectionl Diode	DC only
15	30	AMP JUNIOR	Bidirectional Diode	DC only
0H	03	SINGLE LEAD	Bidirectional Diode	DC only *

* Length 300mm (11.8 inches). Ext. diameter 6.3mm (0.25 inches). External and internal Shealth Silicone rubber.

Z	Voltage V	Resistance Ohm (±7%)	Power W	Current A		ΔT °C (°F)
	Nominal	Ta = 20-25°C (68-77°F)	Cold coil	Cold coil	Hot coil	1 hour energized at Ta=20-25°C (68-77°F) Nominal voltage
OB	12 DC	7.4	20	1.62	1.19	105-110 (221-230)
OC	24 DC	28.5	20	0.85	0.61	
OG	14 DC		20			
AC	26 DC	34.3	20	0.76	0.54	



X	Y	Connections	Circuit	Voltage
20	30	DEUTSCH DT04-2P-L	Standard	DC only
20	3P	DEUTSCH DT04-2P-V	Standard	DC only
30	3P	AMP SUPERSEAL-V	Standard	DC only
22	30	DEUTSCH DT04-2P-L	Bidirectionl Diode	DC only
22	3P	DEUTSCH DT04-2P-V	Bidirectional Diode	DC only
32	3P	AMP SUPERSEAL-V	Bidirectional Diode	DC only

Z	Voltage V	Resistance Ohm (±7%)	Power W	Current A		ΔT °C (°F)
	Nominal	Ta = 20-25°C (68-77°F)	Cold coil	Cold coil	Hot coil	1 hour energized at Ta=20-25°C (68-77°F) Nominal voltage
OB	12 DC	7.4	20	1.62	1.19	105-110 (221-230)
OC	24 DC	28.5	20	0.85	0.61	
AC	26 DC	34.3	20	0.76	0.54	

Protection IP69 - DIN 40050 part 9
These coils have passed the THERMAL SHOCK DUNK TEST

Note: Please refer to data sheet RE 18325-90 for coils and connectors readily available and for further details.

SPARE PARTS

SOLENOID CARTRIDGE	
Port size	Ordering code
0M.43.20.80.03.20	OD1502181AS000 R901091102
0M.43.20.80.03.35	
0M.43.20.80.04.20	
0M.43.20.80.04.35	
0M.43.20.80.05.20	OD132067390000 R934000629
0M.43.20.80.05.35	
0M.43.20.80.06.20	
0M.43.20.80.06.35	

RELIEF CARTRIDGE	
Port size	Ordering code
0M.43.20.80.03.20	041148035620000 R901104097
0M.43.20.80.04.20	
0M.43.20.80.05.20	
0M.43.20.80.06.20	
0M.43.20.80.03.35	041148035635000 R901104099
0M.43.20.80.04.35	
0M.43.20.80.05.35	
0M.43.20.80.06.35	

Ordering code

0M.43.20.80	Y	Z

3-Way heavy duty flow control, with pressure compensated and solenoid controlled priority flow

	Priority pressure range		
	Adj. pressure range bar (psi)	Pres. increase bar/turn (psi/turn)	Std. setting Q=5 (l/min.) bar (psi)
= 20	50-210 (725-3000)	48 (696)	200 (2900)
= 35	100-350 (1450-5000)	95 (1378)	350 (5000)

	Port sizes		Inlet flow (max)	Regulated priority flow	
	P-A-B	T	l/min (gpm)	l/min (gpm) max	l/min (gpm) per turn
= 03	G 1/2	G 1/4	100 (26)	85 (23)	approx. 18 (4.8)
= 04	G 3/4	G 1/4	200 (53)	140 (37)	approx. 20 (5.3)
= 05	G 1	G 1/4	300 (79)	220 (58)	approx. 26 (6.9)
= 06	G 1-1/4	G 1/4	400 (106)	300 (80)	approx. 28 (7.4)

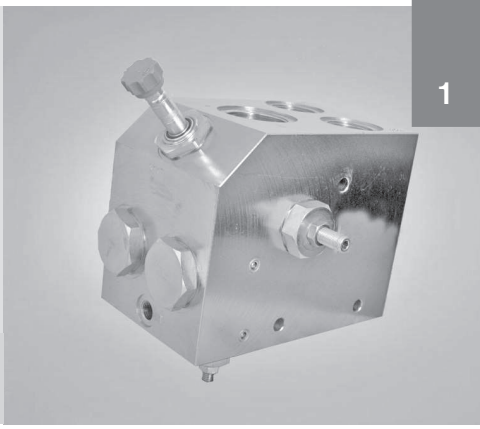
Type	Material number
0M432080032000C	R930004377
0M432080033500C	R930004378
0M432080042000D	R930000028
0M4320800435000	R930006085
0M432080052000D	R930004383
0M432080053500A	R930006086
0M432080062000D	R930004385
0M4320800635000	R930000353

Type	Material number

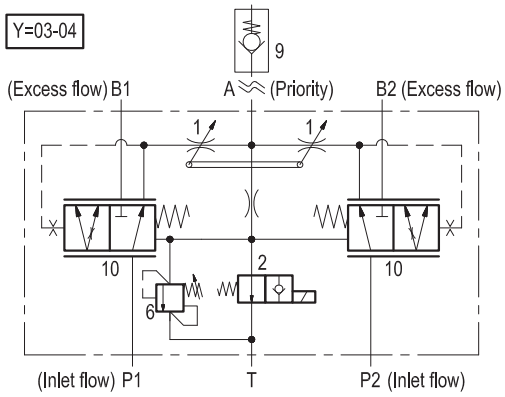
Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
motion-control-valves@oilcontrol.com
www.boschrexroth.com

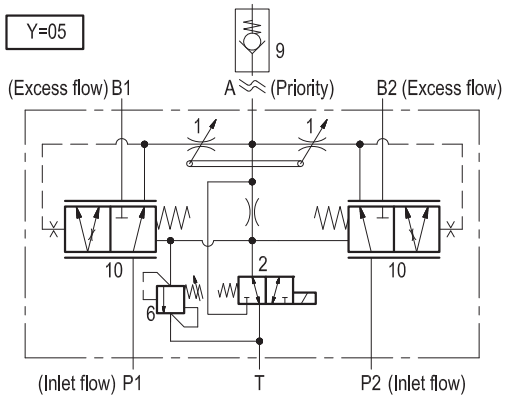
RE 18309-54/04.10 1/6
Replaces: RE 00171/02.07

5-Way heavy duty flow control, with pressure compensated and solenoid controlled priority flow, for two pumps systems



A-VRFC3C-VEI-VS **0M.43.12.80 - Y - Z**





Description

The flow control valves code 0M.43.12.80 are 3 way, with two separate inlets P1 and P2 and three outlets “A” and “B1” and “B2”, the first outlet “A” being priority, pressure compensated type, with pressure relief valve, and available on demand through a solenoid cartridge; the second and third outlets “B1” and “B2” are the by-pass for all flow in excess of what demanded by priority. All flows from “A”, “B1” and “B2” ports can be employed to power different functions of the machine.
These valves provide a simple and efficient way to power hydraulic tools (such as hydraulic hammers) from the existing hydraulic system, without any need to modify the directional control valve.
They allow the simultaneous operations, independently from the respective working pressures, of both the hydraulic actuator powered by the priority outlet “A”, and of the normal functions of the machine (traction, slewing, cylinder motions, etc.) supplied by the main directional valve through the by-pass outlet “B1” and “B2”.

Technical data

Hydraulic

Max. operating pressure	bar (psi)	350 (5000)
Max. priority line pressure: limited by relief valve (6). See “priority pressure range” table on page 5.		
Back pressure at T port	bar (psi)	max 1.5 (20)
Drain from T, with solenoid valve non-energized	l/min (gpm)	up to 1.5 (0.4)

General

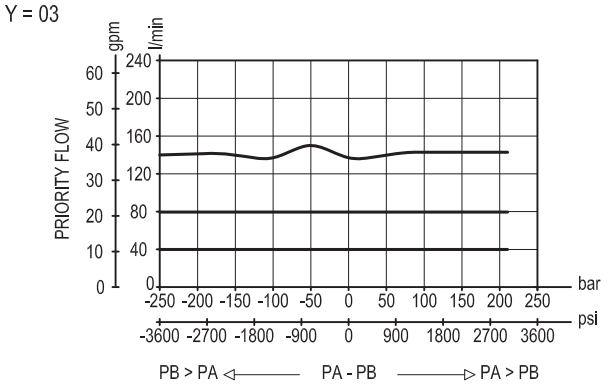
Manifold material		Steel
Weight		See “Dimensions”
Viscosity		20 to 380 mm²/s (cSt)
Fluid temperature range	°C (°F)	between -20 (-4) and +80 (176)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

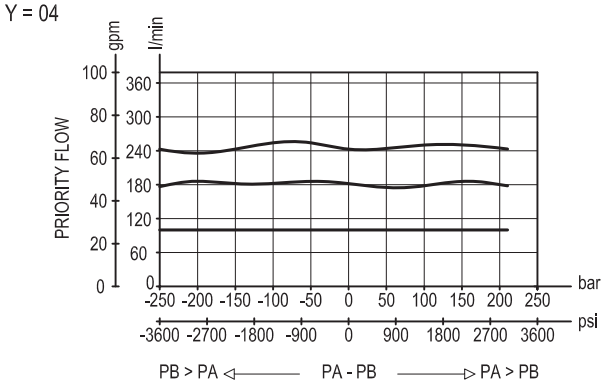
Performance graphs

Priority Flow vs Pressure

Y = 03



Y = 04



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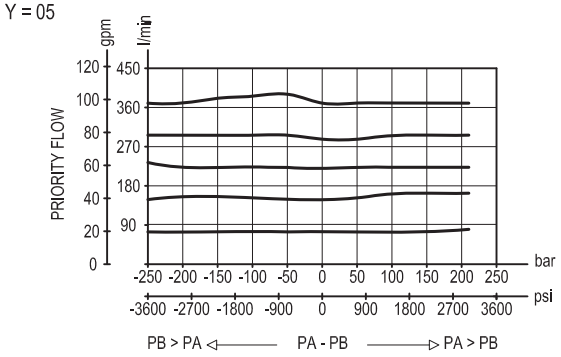
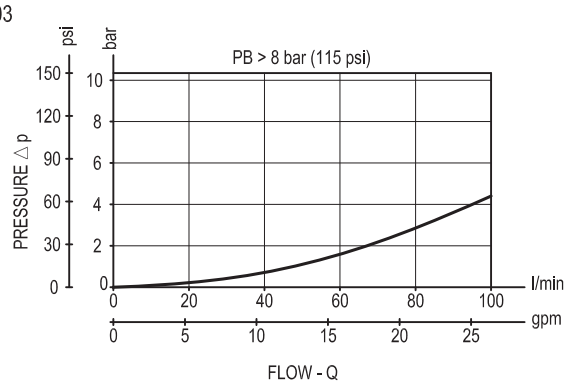
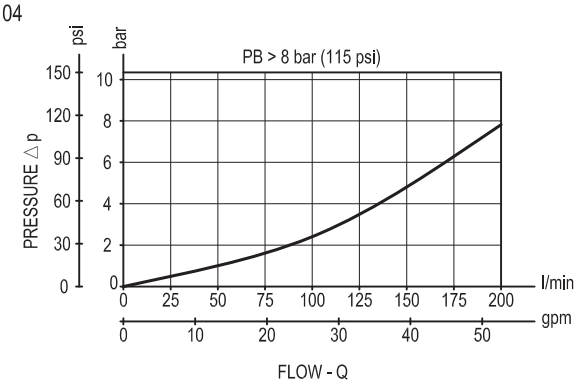


By-pass line pressure drop

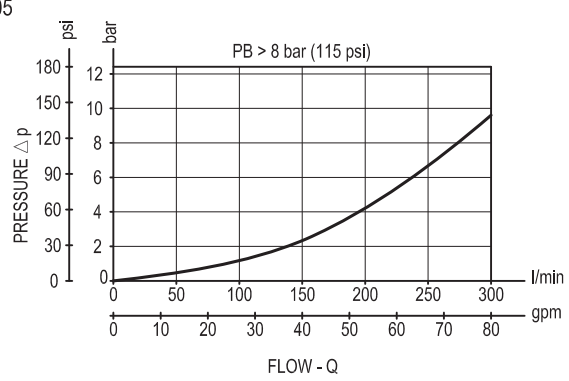
Y = 03



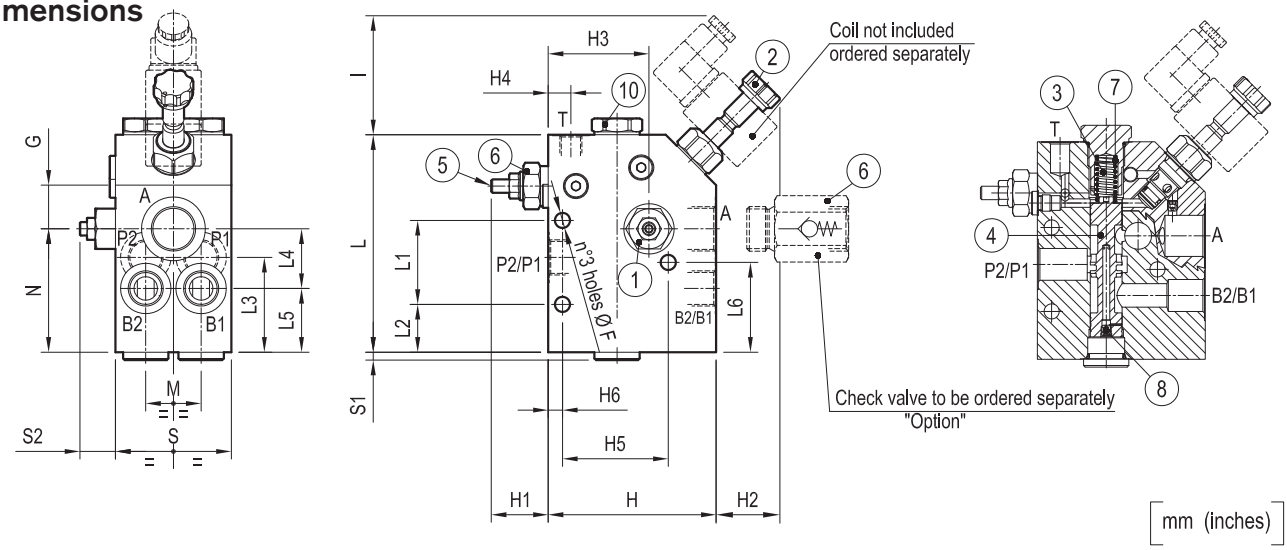
Y = 04



Y = 05



Dimensions



mm (inches)

21 (0.83)	4.5 (0.18)	109 (4.29)	70.5 (2.78)	42 (1.65)	61 (2.4)	78 (3.07)	32.5 (1.28)	76 (2.99)	173 (6.81)	73 (2.87)	14.5 (0.57)	90 (3.54)	16.5 (0.65)	80 (3.15)	38 (1.5)	34 (1.34)	139 (5.47)	9 (0.35)	41 (1.61)	56 (2.21)	103 (4.06)	G 1	18 (39.7)
21 (0.83)	4.5 (0.18)	89 (3.5)	59 (2.32)	34 (1.34)	47 (1.85)	61 (2.4)	34 (1.34)	50 (1.97)	140 (5.51)	73 (2.87)	17.5 (0.69)	73 (2.87)	16.5 (0.65)	73.5 (2.89)	38 (1.5)	34 (1.34)	124 (4.88)	9 (0.35)	29 (1.14)	46 (1.81)	81 (3.19)	G 3/4	10.7 (23.6)
21 (0.83)	4.5 (0.18)	69 (2.72)	53.5 (2.11)	38 (1.5)	35.5 (1.4)	56.5 (2.22)	28.5 (1.12)	50 (1.97)	129.5 (5.1)	73 (2.87)	8.5 (0.34)	63 (2.48)	13.5 (0.53)	60 (2.36)	38 (1.5)	34 (1.34)	100 (3.94)	9 (0.35)	26 (1.02)	33 (1.3)	73.5 (2.89)	G 1/2	6.5 (14.3)
S2	**S1**	**S**	**L6**	**L5**	**L4**	**L3**	**L2**	**L1**	**L**	**I**	**H6**	**H5**	**H4**	**H3**	**H2**	**H1**	**H**	**F**	**G**	**M**	**N**	**Port sizes**	**Weight** kg (lbs)

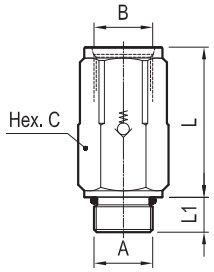
Fitting and connections

When positioning and tightening the valve, avoid any deflection of the body which could prevent the internal spool from sliding freely and impair the metering performance; it is recommended to use the 3 available fixation holes as locating points and to fit 3 equal spacers (metal washers), one on each point, between the valve body and the supporting structure.

Connections to the hydraulic system:

- Port “P1” and “P2” (inlets) to the main line from the pumps.
- Port “A” (priority outlet) to the line feeding the hydraulic hammer, or the attachment. Important: for the correct metering of the compensating spool the priority outlet shall be always pressurized, with a back-pressure of at least 8-9 bar (115-130 psi); if necessary, fit a check valve with the needed cracking pressure.
- Port “B1” and “B2” (by-pass, or excess flow outlet) to the lines delivering the oil to the main directional valve.
- Port “T” to a tank line. It is absolutely necessary that port “T” is connected to a low pressure tank line, 1-1.5 bar max (15-22 psi max).

Sleeve type check valves



Port sizes A - B	Cracking pressure bar (psi)	Dimensions mm (inches)			Ordering code
		C	L	L1	
G 1/2	8 (115)	30 (1.18)	57 (2.24)	14 (0.55)	043117000301000 R930000444
G 3/4	8 (115)	36 (1.42)	69 (2.72)	16 (0.63)	043117000401000 R930000445
G 1	8 (115)	46 (1.81)	82 (3.23)	18 (0.71)	043117000501000 R930000446

Adjustment of priority flow

The volume of priority flow from port “A” can be easily modified by turning the screw (1): the flow increases by turning the screw counter-clockwise and, once adjusted to the desired level, it remains constant independently from the working pressure.

Adjustment of maximum priority pressure

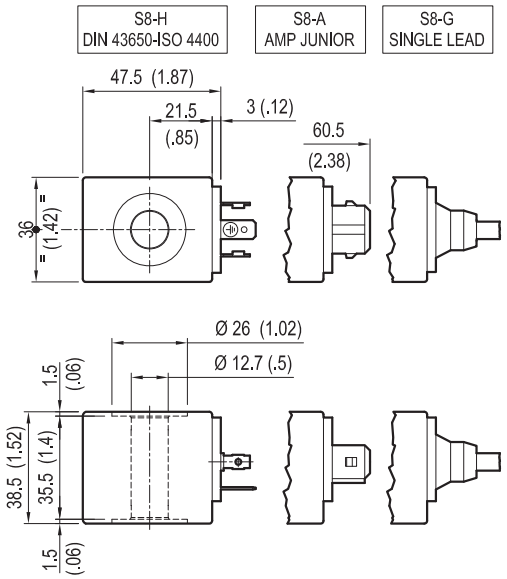
The maximum pressure in the priority line “A” can be adjusted by turning the screw (5) of the small relief cartridge (6) which controls the maximum pressure in the chamber (3): when this “pilot” cartridge opens, the pressure in chamber (3) drops and the priority flow is stopped.

Note: the relief cartridge (6) controls only the maximum pressure in the priority outlet “A”, and does not control the pressure in the by-pass and main line: the main line must be protected by another relief valve, capable to discharge the full oil flow.

Ordering code: **OD.02.17 - X - Y - Z**

COILS

Attention: indicated coils fit every hammer valve versions

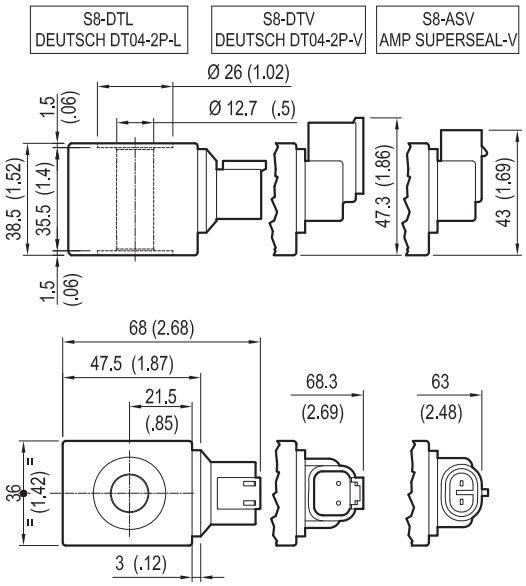


TECHNICAL DATA
Weight: 0.180 kg (0.4 lbs)
Encapsulating material: IXEF
Heat insulation Class H: 180°C (356°F)
Ambient temperature range: -30/+60°C (-86/+140°F)
Inlet voltage fluctuations must not exceed ±10% of nominal voltage to obtain correct operation and long life coils.

X	Y	Connections	Circuit	Voltage
01	30	DIN 43650 - ISO 4400	Standard	DC-RAC
07	30	AMP JUNIOR	Standard	DC only
0G	03	SINGLE LEAD	Standard	DC only *
14	30	DIN 43650 - ISO 4400	Bidirectionl Diode	DC only
15	30	AMP JUNIOR	Bidirectional Diode	DC only
0H	03	SINGLE LEAD	Bidirectional Diode	DC only *

* Length 300mm (11.8 inches). Ext. diameter 6.3mm (0.25 inches). External and internal Shealth Silicone rubber.

Z	Voltage V	Resistance Ohm (±7%)	Power W	Current A		ΔT °C (°F)
	Nominal	Ta = 20-25°C (68-77°F)	Cold coil	Cold coil	Hot coil	1 hour energized at Ta=20-25°C (68-77°F) Nominal voltage
OB	12 DC	7.4	20	1.62	1.19	105-110 (221-230)
OC	24 DC	28.5	20	0.85	0.61	
OG	14 DC		20			
AC	26 DC	34.3	20	0.76	0.54	



X	Y	Connections	Circuit	Voltage
20	30	DEUTSCH DT04-2P-L	Standard	DC only
20	3P	DEUTSCH DT04-2P-V	Standard	DC only
30	3P	AMP SUPERSEAL-V	Standard	DC only
22	30	DEUTSCH DT04-2P-L	Bidirectionl Diode	DC only
22	3P	DEUTSCH DT04-2P-V	Bidirectional Diode	DC only
32	3P	AMP SUPERSEAL-V	Bidirectional Diode	DC only

Z	Voltage V	Resistance Ohm (±7%)	Power W	Current A		ΔT °C (°F)
	Nominal	Ta = 20-25°C (68-77°F)	Cold coil	Cold coil	Hot coil	1 hour energized at Ta=20-25°C (68-77°F) Nominal voltage
OB	12 DC	7.4	20	1.62	1.19	105-110 (221-230)
OC	24 DC	28.5	20	0.85	0.61	
AC	26 DC	34.3	20	0.76	0.54	

Protection IP69 - DIN 40050 part 9
These coils have passed the THERMAL SHOCK DUNK TEST

Note: Please refer to data sheet RE 18325-90 for coils and connectors readily available and for further details.

SPARE PARTS

SOLENOID CARTRIDGE	
Port size	Ordering code
0M.43.12.80.03.20	OD1502181AS000 R901091102
0M.43.12.80.03.35	
0M.43.12.80.04.20	
0M.43.12.80.04.35	
0M.43.12.80.05.20	OD132067390000 R934000629
0M.43.12.80.05.35	

RELIEF CARTRIDGE	
Port size	Ordering code
0M.43.12.80.03.20	041148035620000 R901104097
0M.43.12.80.04.20	
0M.43.12.80.05.20	
0M.43.12.80.03.35	041148035635000 R901104099
0M.43.12.80.04.35	
0M.43.12.80.05.35	

Ordering code

0M.43.12.80	Y	Z

5-Way heavy duty flow control, with pressure compensated and solenoid controlled priority flow,
for two pumps systems

	Priority pressure range		
	Adj. pressure range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting Q=5 (l/min.) bar (psi)
= 20	50-210 (725-3000)	48 (696)	200 (2900)
= 35	100-350 (1450-5000)	95 (1378)	350 (5000)

	Port sizes			Inlet flow (max)		Regulated priority flow	
	P1-P2 B1-B2	A	T	l/min (gpm)		l/min (gpm) max	l/min (gpm) per turn
				P1	P2		
= 03	G 1/2	G 3/4	G 1/4	100 (26)	100 (26)	150 (40)	approx. 32 (8.45)
= 04	G 3/4	G 1	G 1/4	200 (53)	200 (53)	250 (65)	approx. 35 (9.25)
= 05	G 1	G 1-1/4	G 1/4	300 (79)	300 (79)	390 (103)	approx. 46 (12.15)

Type	Material number
0M431280032000C	R930004361
0M4312800335000	R930000354
0M431280042000C	R930004362
0M4312800435000	R930000355
0M431280052000D	R930004363
0M4312800535000	R930000366

Type	Material number

Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
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Tel. +39 059 887 611
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motion-control-valves@oilcontrol.com
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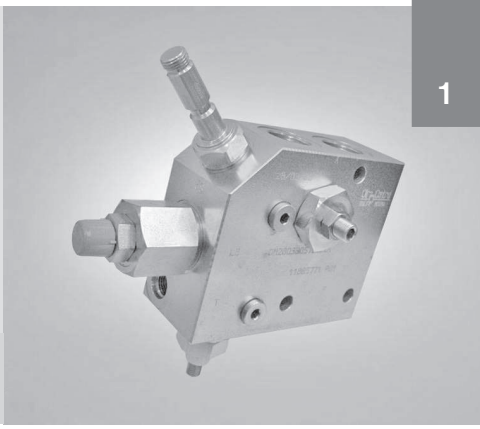
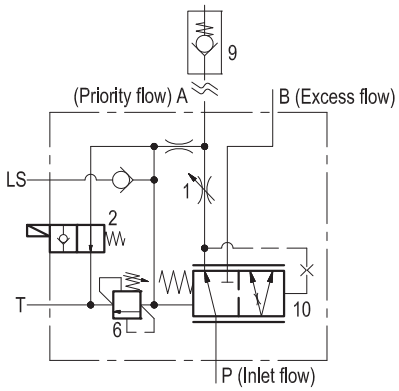
RE 18309-63/04.10 1/6
Replaces: RE 00171/02.07

3-Way heavy duty flow control, with pressure compensated, solenoid and load sensing controlled priority flow



A-VRFC3C-VEI-VS-LS **0M.43.21.80 - Y - Z**



Description

The flow control valves series “A-VRFC3C-VEI-VS” are 3 way, with one inlet “P” and two outlets “A” and “B”, the first outlet “A” being priority, pressure compensated type, with pressure relief valve and available on demand through a solenoid cartridge; the second outlet “B” is the by-pass for all flow in excess of what demanded by priority. Both flows from “A” and “B” ports can be employed to power different functions of the machine. A pressure signal “**LS**” from the valve is delivered to the load sensing circuit to increase the pump flow in order to match the requirement.
These valves provide a simple and efficient way to power hydraulic tools (such as hydraulic hammers) from the existing hydraulic system, without any need to modify the directional control valve. They allow the simultaneous operations, independently from the respective working pressures, of both the hydraulic actuator powered by the priority outlet “A”, and of the normal functions of the machine (traction, slewing, cylinder motions, etc.) supplied by the main directional valve through the by-pass outlet “B”.

Technical data

Hydraulic

Max. operating pressure	bar (psi)	350 (5000)
Max. priority line pressure: limited by relief valve (6). See “priority pressure range” table on page 5.		
Back pressure at T port	bar (psi)	max 1.5 (20)
Drain from T, with solenoid valve non-energized	l/min (gpm)	up to 1.5 (0.4)

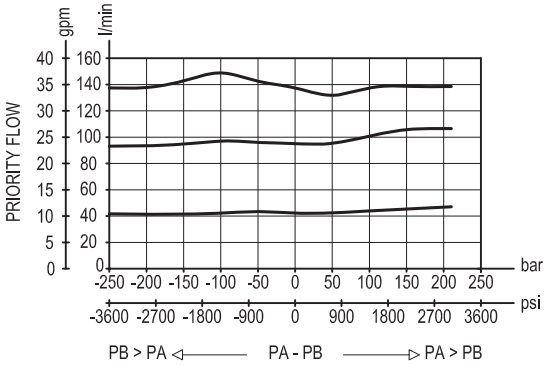
General

Manifold material		Steel
Weight		See “Dimensions”
Viscosity		20 to 380 mm^2/s (cSt)
Fluid temperature range	°C (°F)	between -20 (-4) and +80 (176)
Other technical data		see data sheet RE 18350-50

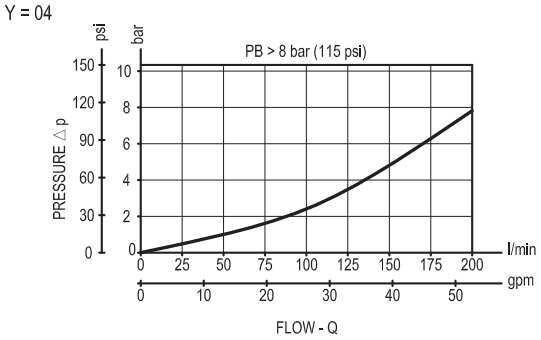
Note: for applications outside these parameters, please consult us.

Performance graphs

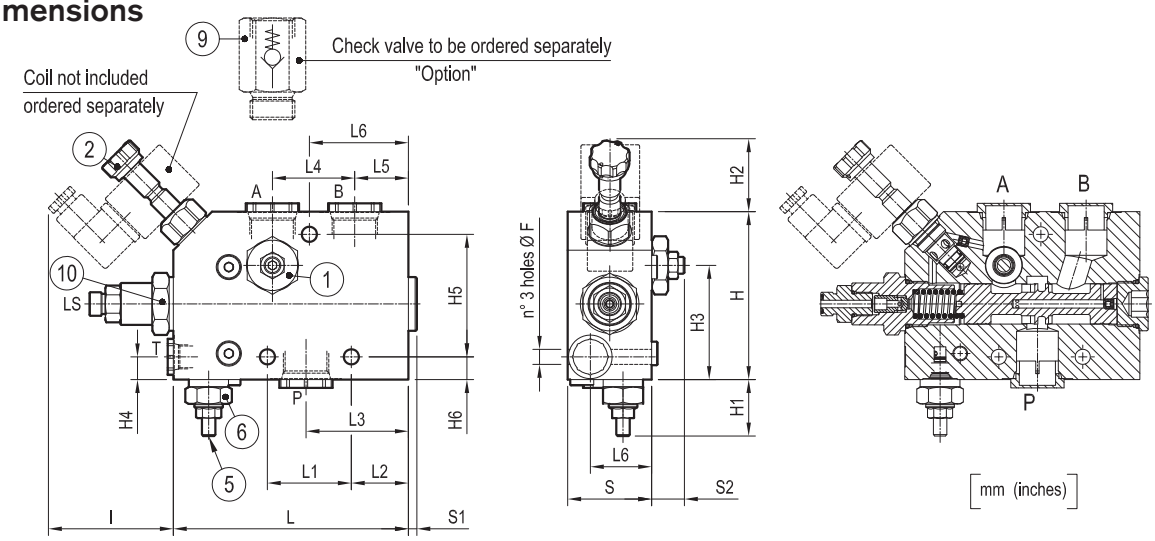
Priority Flow vs Pressure



By-pass line pressure drop



Dimensions



29 (1.14)	5 (0.2)	50 (1.97)	36.5 (1.44)	32 (1.26)	49 (1.93)	61 (2.4)	34 (1.34)	50 (1.97)	140 (5.51)	73 (2.87)	13.5 (0.53)	73 (2.87)	13.5 (0.53)	68 (2.68)	41 (1.61)	34 (1.34)	100 (3.93)	9 (0.35)	1 1/16-12 UN-2B	6 (13)
S2	**S1**	**S**	**L6**	**L5**	**L4**	**L3**	**L2**	**L1**	**L**	**I**	**H6**	**H5**	**H4**	**H3**	**H2**	**H1**	**H**	**F**	**Port sizes**	**Weight** kg (lbs)

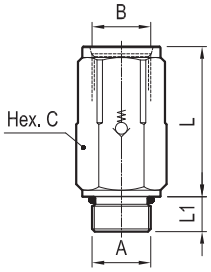
Fitting and connections

When positioning and tightening the valve, avoid any deflection of the body which could prevent the internal spool from sliding freely and impair the metering performance; it is recommended to use the 3 available fixation holes as locating points and to fit 3 equal spacers (metal washers), one on each point, between the valve body and the supporting structure.

Connections to the hydraulic system:

- Port “P” (inlet) to the main line from the pump.
- Port “A” (priority outlet) to the line feeding the hydraulic hammer, or the attachment. Important: for the correct metering of the compensating spool the priority outlet shall be always pressurized, with a back-pressure of at least 8-9 bar (115-130 psi); if necessary, fit a check valve with the needed cracking pressure.
- Port “B” (by-pass, or excess flow outlet) to the line delivering the oil to the main directional valve.
- Port “T” to a tank line. It is absolutely necessary that port “T” is connected to a low pressure tank line, 1-1.5 bar max (15-22 psi max).
- Port “LS” to the load sensing line

Sleeve type check valves



Port sizes A - B	Cracking pressure bar (psi)	Dimensions mm (inches)			Ordering code
		C	L	L1	
1 1/16-12 UN-2B	8 (115)	36 (1.42)	69 (2.72)	16 (0.63)	043117005701000 R930000453

Adjustment of priority flow

The volume of priority flow from port “A” can be easily modified by turning the screw (1): the flow increases by turning the screw counter-clockwise and, once adjusted to the desired level, it remains constant independently from the working pressure.

Adjustment of maximum priority pressure

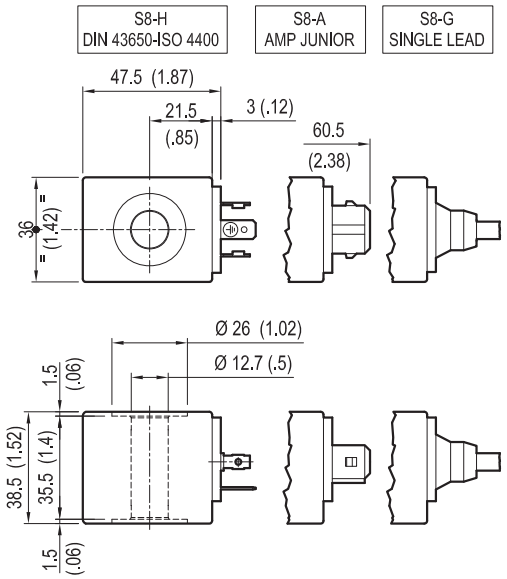
The maximum pressure in the priority line “A” can be adjusted by turning the screw (5) of the small relief cartridge (6) which controls the maximum pressure in the chamber (3): when this “pilot” cartridge opens, the pressure in chamber (3) drops and the priority flow is stopped.

Note: the relief cartridge (6) controls only the maximum pressure in the priority outlet “A”, and does not control the pressure in the by-pass and main line: the main line must be protected by another relief valve, capable to discharge the full oil flow.

Ordering code: **OD.02.17 - X - Y - Z**

COILS

Attention: indicated coils fit every hammer valve versions

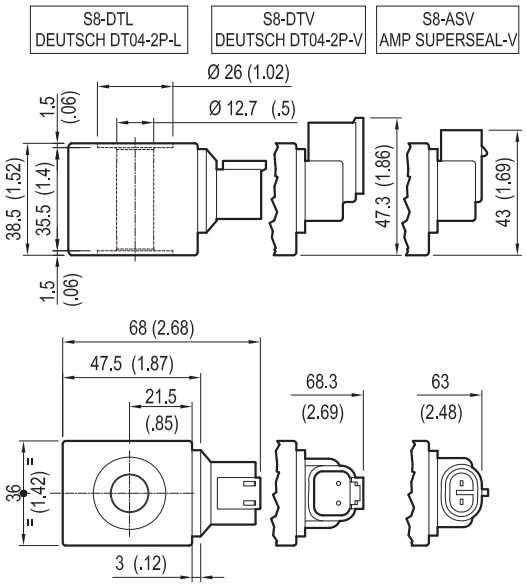


TECHNICAL DATA
Weight: 0.180 kg (0.4 lbs)
Encapsulating material: IXEF
Heat insulation Class H: 180°C (356°F)
Ambient temperature range: -30/+60°C (-86/+140°F)
Inlet voltage fluctuations must not exceed ±10% of nominal voltage to obtain correct operation and long life coils.

X	Y	Connections	Circuit	Voltage
01	30	DIN 43650 - ISO 4400	Standard	DC-RAC
07	30	AMP JUNIOR	Standard	DC only
0G	03	SINGLE LEAD	Standard	DC only *
14	30	DIN 43650 - ISO 4400	Bidirectionl Diode	DC only
15	30	AMP JUNIOR	Bidirectional Diode	DC only
0H	03	SINGLE LEAD	Bidirectional Diode	DC only *

* Length 300mm (11.8 inches). Ext. diameter 6.3mm (0.25 inches). External and internal Shealth Silicone rubber.

Z	Voltage V	Resistance Ohm (±7%)	Power W	Current A		ΔT °C (°F)
	Nominal	Ta = 20-25°C (68-77°F)	Cold coil	Cold coil	Hot coil	1 hour energized at Ta=20-25°C (68-77°F) Nominal voltage
OB	12 DC	7.4	20	1.62	1.19	105-110 (221-230)
OC	24 DC	28.5	20	0.85	0.61	
OG	14 DC		20			
AC	26 DC	34.3	20	0.76	0.54	



X	Y	Connections	Circuit	Voltage
20	30	DEUTSCH DT04-2P-L	Standard	DC only
20	3P	DEUTSCH DT04-2P-V	Standard	DC only
30	3P	AMP SUPERSEAL-V	Standard	DC only
22	30	DEUTSCH DT04-2P-L	Bidirectionl Diode	DC only
22	3P	DEUTSCH DT04-2P-V	Bidirectional Diode	DC only
32	3P	AMP SUPERSEAL-V	Bidirectional Diode	DC only

Z	Voltage V	Resistance Ohm (±7%)	Power W	Current A		ΔT °C (°F)
	Nominal	Ta = 20-25°C (68-77°F)	Cold coil	Cold coil	Hot coil	1 hour energized at Ta=20-25°C (68-77°F) Nominal voltage
OB	12 DC	7.4	20	1.62	1.19	105-110 (221-230)
OC	24 DC	28.5	20	0.85	0.61	
AC	26 DC	34.3	20	0.76	0.54	

Protection IP69 - DIN 40050 part 9
These coils have passed the THERMAL SHOCK DUNK TEST

Note: Please refer to data sheet RE 18325-90 for coils and connectors readily available and for further details.

SPARE PARTS

SOLENOID CARTRIDGE	
Port size	Ordering code
0M.43.21.80.57.20	OD1502181AS000
0M.43.21.80.57.35	R901091102

RELIEF CARTRIDGE	
Port size	Ordering code
0M.43.21.80.57.20	041148035620000
	R901104097
0M.43.21.80.57.35	041148035635000
	R901104099

Ordering code

0M.43.21.80	Y	Z

3-Way heavy duty flow control, with pressure compensated, solenoid and load sensing controlled priority flow

	Priority pressure range		
	Adj. pressure range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting Q=5 (l/min.) bar (psi)
= 20	50-210 (725-3000)	48 (696)	200 (2900)
= 35	100-350 (1450-5000)	95 (1378)	350 (5000)

	Port sizes		Regulated priority flow	
	P-A	T-LS	l/min (gpm) max	l/min (gpm) per turn
= 57	1 1/16-12 UN-2B	9/16-18 UNF	140 (37)	approx. 20 (5.3)

Type	Material number
0M4321805720000	R930005433
0M4321805735000	R930001968

Type	Material number

Bosch Rexroth Oil Control S.p.A.
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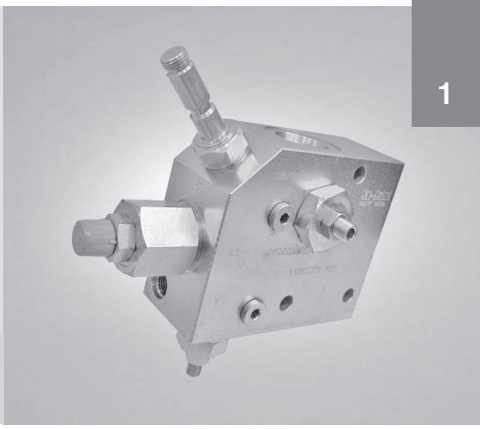
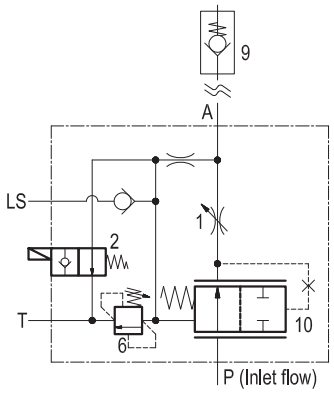
motion-control-valves@oilcontrol.com
www.boschrexroth.com

RE 18309-64/04.10 1/6
Replaces: RE 00171/02.07

2-Way heavy duty flow control, with pressure compensated, solenoid and load sensing controlled priority flow



A-VRFC2C-VEI-VS-LS **0M.28.03.80 - Y - Z**



Description

The FLOW CONTROL VALVES code OM.28.03.80 are 2 way, with one inlet “P” and one outlet “A”, being the port “A” the priority line port, pressure compensated, with pressure relief valve, and available on demand through a solenoid cartridge.
A pressure signal “**LS**” from the valve is delivered to the load sensing circuit to increase the pump flow in order to match the requirement.
These valves provide a simple and efficient way to power hydraulic tools (such as hydraulic hammers) from the existing hydraulic system, without any need to modify the directional control valve.

Technical data

Hydraulic

Max. operating pressure	bar (psi)	350 (5000)
Max. priority line pressure: limited by relief valve (6). See “priority pressure range” table on page 5.		
Back pressure at T port	bar (psi)	max 1.5 (20)
Drain from T, with solenoid valve non-energized	l/min (gpm)	up to 1.5 (0.4)

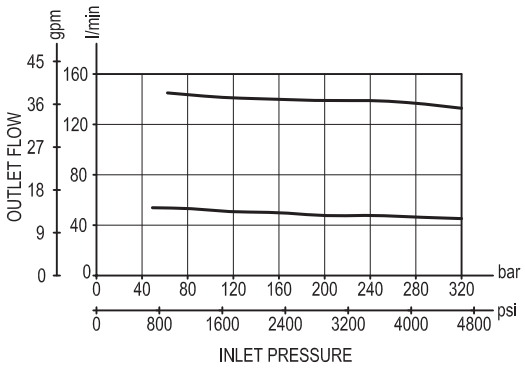
General

Manifold material		Steel
Weight		See “Dimensions”
Viscosity		20 to 380 mm^2/s (cSt)
Fluid temperature range	°C (°F)	between -20 (-4) and +80 (176)
Other technical data		see data sheet RE 18350-50

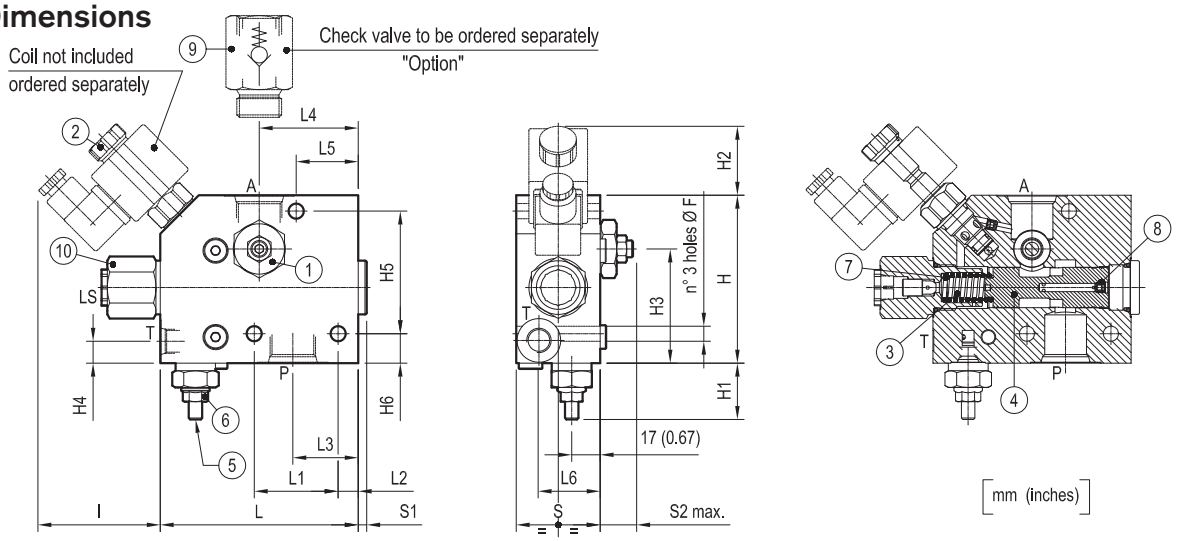
Note: for applications outside these parameters, please consult us.

Performance graphs

Priority Flow vs Pressure



Dimensions



28.5 max (1.12 max)	5 (0.2)	50 (1.97)	36.5 (1.44)	37 (1.46)	59 (2.32)	39 (1.54)	12 (0.47)	50 (1.97)	118 (4.65)	73 (2.87)	17.5 (0.69)	73 (2.87)	13.5 (0.53)	68 (2.68)	41 (1.61)	34 (1.34)	100 (3.93)	9 (0.35)	1 1/16-12 UN-2B	4.6 10.1)
S2	**S1**	**S**	**L6**	**L5**	**L4**	**L3**	**L2**	**L1**	**L**	**I**	**H6**	**H5**	**H4**	**H3**	**H2**	**H1**	**H**	**F**	**Port sizes**	**Weight** kg (lbs)

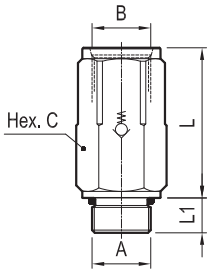
Fitting and connections

When positioning and tightening the valve, avoid any deflection of the body which could prevent the internal spool from sliding freely and impair the metering performance; it is recommended to use the 3 available fixation holes as locating points and to fit 3 equal spacers (metal washers), one on each point, between the valve body and the supporting structure.

Connections to the hydraulic system:

- Port “P” (inlet) to the main line from the pump.
- Port “A” (priority outlet) to the line feeding the hydraulic hammer, or the attachment. Important: for the correct metering of the compensating spool the priority outlet shall be always pressurized, with a back-pressure of at least 8-9 bar (115-130 psi); if necessary, fit a check valve with the needed cracking pressure.
- Port “T” to a tank line. It is absolutely necessary that port “T” is connected to a low pressure tank line, 1-1.5 bar max (15-22 psi max).
- Port “LS” to the load sensing line

Sleeve type check valves



Port sizes A - B	Cracking pressure bar (psi)	Dimensions mm (inches)			Ordering code
		C	L	L1	
1 1/16-12 UN-2B	8 (115)	36 (1.42)	69 (2.72)	16 (0.63)	043117005701000 R930000453

Adjustment of priority flow

The volume of priority flow from port “A” can be easily modified by turning the screw (1): the flow increases by turning the screw counter-clockwise and, once adjusted to the desired level, it remains constant independently from the working pressure.

Adjustment of maximum priority pressure

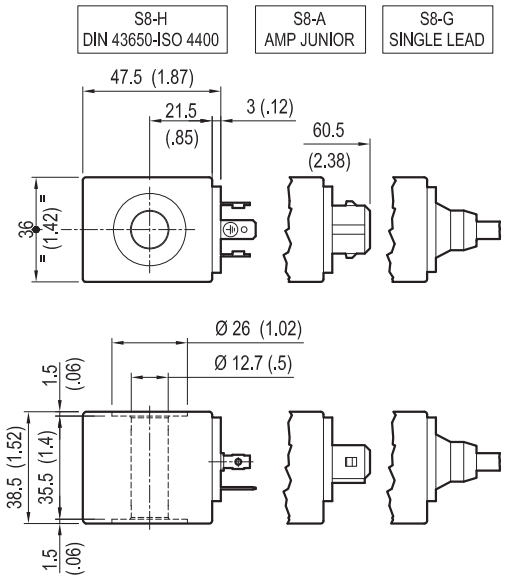
The maximum pressure in the priority line “A” can be adjusted by turning the screw (5) of the small relief cartridge (6) which controls the maximum pressure in the chamber (3): when this “pilot” cartridge opens, the pressure in chamber (3) drops and the priority flow is stopped.

Note: the relief cartridge (6) controls only the maximum pressure in the priority outlet “A”, and does not control the pressure in the by-pass and main line: the main line must be protected by another relief valve, capable to discharge the full oil flow.

Ordering code: **OD.02.17 - X - Y - Z**

COILS

Attention: indicated coils fit every hammer valve versions

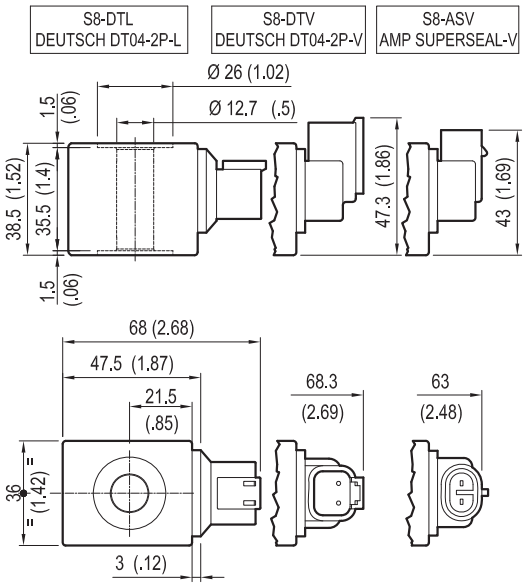


TECHNICAL DATA
Weight: 0.180 kg (0.4 lbs)
Encapsulating material: IXEF
Heat insulation Class H: 180°C (356°F)
Ambient temperature range: -30/+60°C (-86/+140°F)
Inlet voltage fluctuations must not exceed ±10% of nominal voltage to obtain correct operation and long life coils.

X	Y	Connections	Circuit	Voltage
01	30	DIN 43650 - ISO 4400	Standard	DC-RAC
07	30	AMP JUNIOR	Standard	DC only
0G	03	SINGLE LEAD	Standard	DC only *
14	30	DIN 43650 - ISO 4400	Bidirectionl Diode	DC only
15	30	AMP JUNIOR	Bidirectional Diode	DC only
0H	03	SINGLE LEAD	Bidirectional Diode	DC only *

* Length 300mm (11.8 inches). Ext. diameter 6.3mm (0.25 inches). External and internal Shealth Silicone rubber.

Z	Voltage V	Resistance Ohm (±7%)	Power W	Current A		ΔT °C (°F)
	Nominal	Ta = 20-25°C (68-77°F)	Cold coil	Cold coil	Hot coil	1 hour energized at Ta=20-25°C (68-77°F) Nominal voltage
OB	12 DC	7.4	20	1.62	1.19	105-110 (221-230)
OC	24 DC	28.5	20	0.85	0.61	
OG	14 DC		20			
AC	26 DC	34.3	20	0.76	0.54	



X	Y	Connections	Circuit	Voltage
20	30	DEUTSCH DT04-2P-L	Standard	DC only
20	3P	DEUTSCH DT04-2P-V	Standard	DC only
30	3P	AMP SUPERSEAL-V	Standard	DC only
22	30	DEUTSCH DT04-2P-L	Bidirectionl Diode	DC only
22	3P	DEUTSCH DT04-2P-V	Bidirectional Diode	DC only
32	3P	AMP SUPERSEAL-V	Bidirectional Diode	DC only

Z	Voltage V	Resistance Ohm (±7%)	Power W	Current A		ΔT °C (°F)
	Nominal	Ta = 20-25°C (68-77°F)	Cold coil	Cold coil	Hot coil	1 hour energized at Ta=20-25°C (68-77°F) Nominal voltage
OB	12 DC	7.4	20	1.62	1.19	105-110 (221-230)
OC	24 DC	28.5	20	0.85	0.61	
AC	26 DC	34.3	20	0.76	0.54	

Protection IP69 - DIN 40050 part 9
These coils have passed the THERMAL SHOCK DUNK TEST

Note: Please refer to data sheet RE 18325-90 for coils and connectors readily available and for further details.

SPARE PARTS

SOLENOID CARTRIDGE	
Port size	Ordering code
0M.28.03.80.57.20	OD15021811AS00
0M.28.03.80.57.35	R901091102

RELIEF CARTRIDGE	
Port size	Ordering code
0M.28.03.80.57.20	041148035620000
	R901104097
0M.28.03.80.57.35	041148035635000
	R901104099

Ordering code

0M.28.03.80	Y	Z

2-Way heavy duty flow control, with pressure compensated, solenoid and load sensing controlled priority flow

	Priority pressure range		
	Adj. pressure range bar (psi)	Pressure increase bar/turn (psi/turn)	Std. setting Q=5 (l/min.) bar (psi)
= 20	50-210 (725-3000)	48 (696)	200 (2900)
= 35	100-350 (1450-5000)	95 (1378)	350 (5000)

	Port sizes		Regulated priority flow	
	P-A	T-LS	l/min (gpm) max	l/min (gpm) per turn
= 57	1 1/16-12 UN-2B	9/16-18 UNF	140 (37)	approx. 20 (5.3)

Type	Material number
0M2803805720000	R930004218
0M2803805735000	R930004219

Type	Material number

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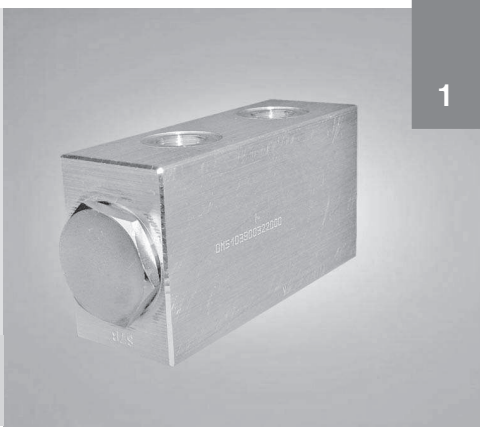
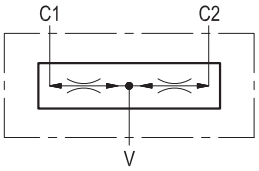
motion-control-valves@oilcontrol.com
www.boschrexroth.com

RE 18309-55/06.10 1/2
Replaces: RE 00171/02.07

Flow divider, combiner



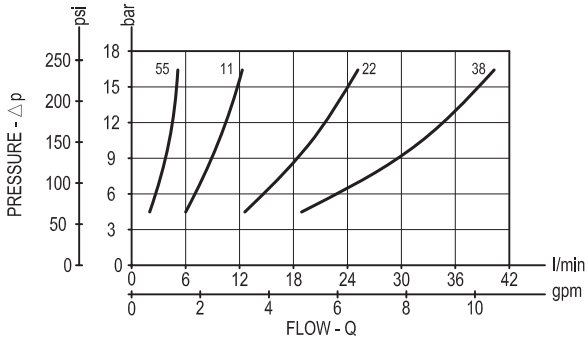
DRF **0M.51.03.90.02 - Z**



Description

This valve gives division of input flow from V to C1-C2, and re-combines flows in reverse direction from C1-C2 to V. The ratio between the flows through C1 and through C2 is maintained constant (typically 50% / 50%) over a wide range of pressure variations and of pressure imbalance in order to synchronize the motion of 2 actuators in both forward and reverse directions. In flow division mode, should either C1 or C2 be blocked, approximately 1÷2% of the available flow can be forced through the port still open.

Performance



Technical data

Hydraulic

Operating pressure	bar (psi)	up to 210 (3000)

Flow division ratio: 50% - 50%

For any chosen inlet flow capacity (refer to table Z), the slippage, or the difference from theoretical value between the divided flows, depends from the inlet flow, and is lowest in the top portion of the selected range: generally it never exceeds ± 3%.

General

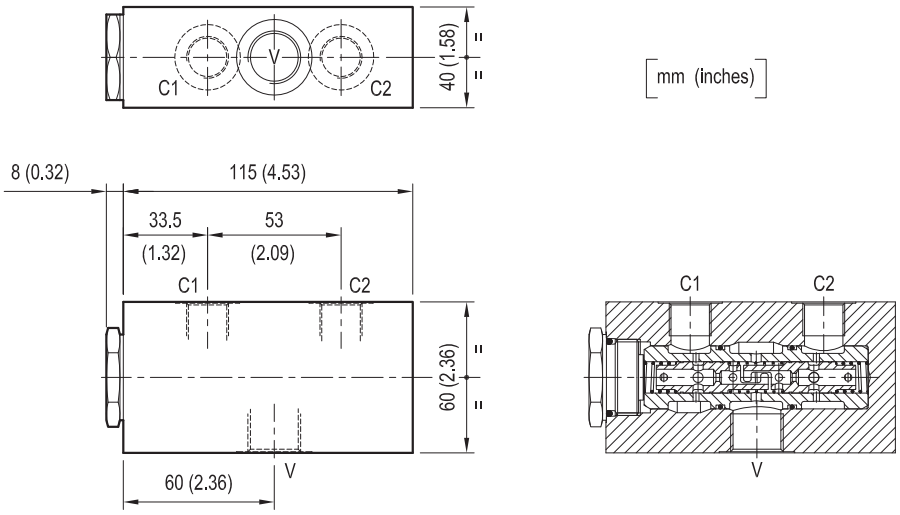
Manifold material		Aluminium

Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.

Weight	kg (lbs)	0.9 (1.98)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.51.03.90	02	Z

Flow divider, combiner

Port sizes	V	C1 - C2	
	G 3/8	G 3/8	

	INLET CAPACITY
= 55	2.8 to 5.8 l/min (0.75 to 1.53 gpm)
= 11	6.5 to 11 l/min (1.72 to 2.91 gpm)
= 22	13 to 22 l/min (3.44 to 5.81 gpm)
= 38	25 to 38 l/min (6.61 to 10 gpm)

Type	Material number
0M510390021100A	R930001708
0M510390022200A	R930001714
0M510390023800A	R930001839
0M510390025500B	R930001510

Type	Material number

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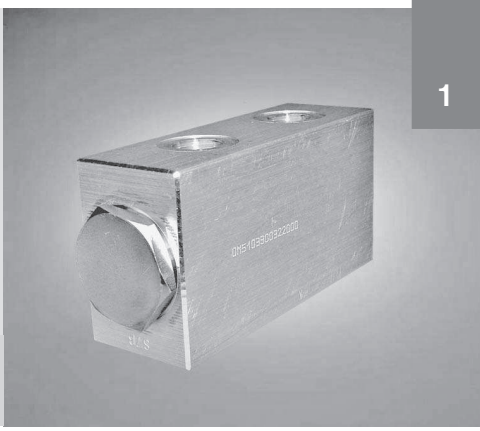
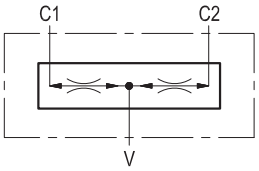
RE 18309-56/06.10 1/2
Replaces: RE 00171/02.07

Flow divider, combiner



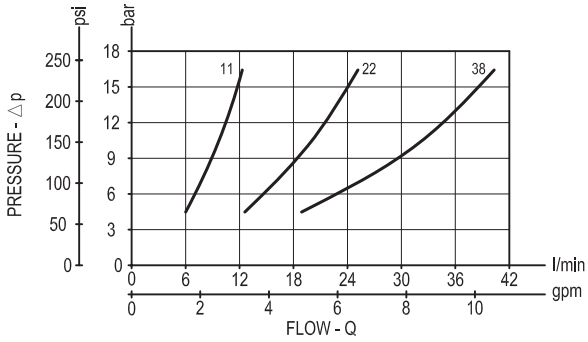
DRF **0M.51.03.90.03 - Z**



Description

This valve gives division of input flow from V to C1-C2, and re-combines flows in reverse direction from C1-C2 to V. The ratio between the flows through C1 and through C2 is maintained constant (typically 50% / 50%) over a wide range of pressure variations and of pressure imbalance in order to synchronize the motion of 2 actuators in both forward and reverse directions. In flow division mode, should either C1 or C2 be blocked, approximately 1÷2% of the available flow can be forced through the port still open.

Performance



Technical data

Hydraulic

Operating pressure	bar (psi)	up to 210 (3000)

Flow division ratio: 50% - 50%

For any chosen inlet flow capacity (refer to table Z), the slippage, or the difference from theoretical value between the divided flows, depends from the inlet flow, and is lowest in the top portion of the selected range: generally it never exceeds ± 3%.

General

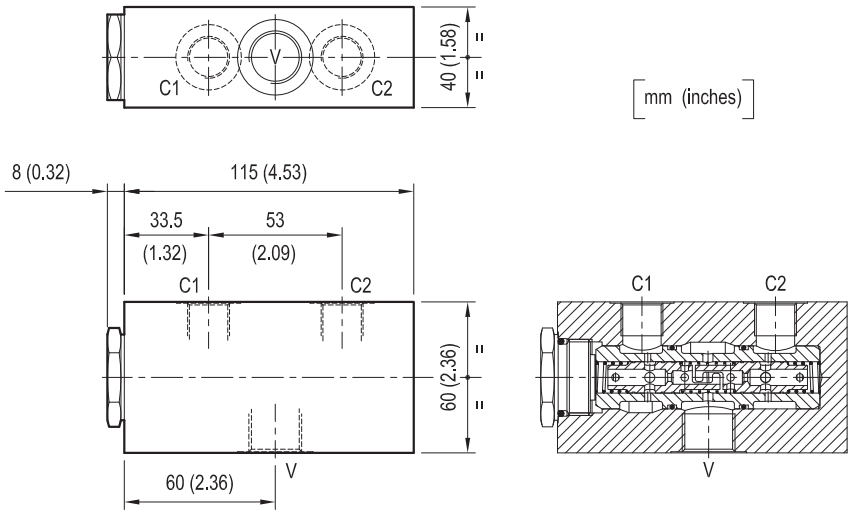
Manifold material		Aluminium

Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.

Weight	kg (lbs)	0.9 (1.98)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.51.03.90	03	Z

Flow divider, combiner

	INLET CAPACITY
= 11	6.5 to 11 l/min (1.72 to 2.91 gpm)
= 22	13 to 22 l/min (3.44 to 5.81 gpm)
= 38	25 to 38 l/min (6.61 to 10 gpm)

Port sizes	V	C1 - C2	
	G 1/2	G 3/8	

Type	Material number
0M510390031100A	R930001710
0M510390032200A	R930001754
0M510390033800A	R930001840

Type	Material number

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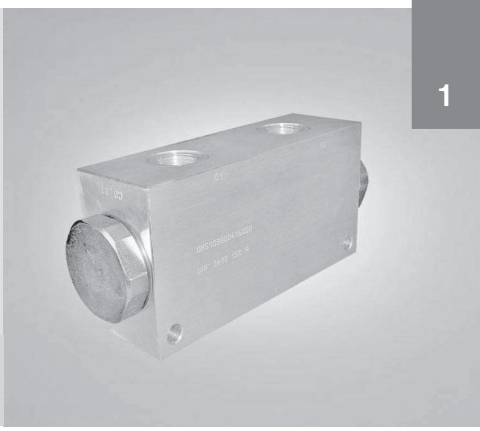
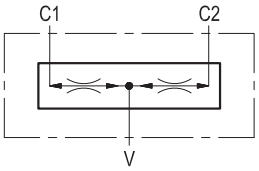
RE 18309-57/07.12
Replaces: RE 18309-57/04.10

Flow divider, combiner



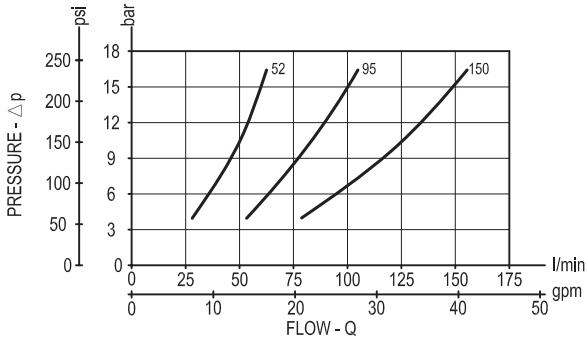
DRF **0M.51.03.90.04 - Z**



Description

This valve gives division of input flow from V to C1-C2, and re-combines flows in reverse direction from C1-C2 to V. The ratio between the flows through C1 and through C2 is maintained constant (typically 50% / 50%) over a wide range of pressure variations and of pressure imbalance in order to synchronize the motion of 2 actuators in both forward and reverse directions. In flow division mode, should either C1 or C2 be blocked, approximately 1÷2% of the available flow can be forced through the port still open.

Performance



Technical data

Hydraulic

Operating pressure	bar (psi)	up to 210 (3000)

Flow division ratio: 50% - 50%

For any chosen inlet flow capacity (refer to table Z), the slippage, or the difference from theoretical value between the divided flows, depends from the inlet flow, and is lowest in the top portion of the selected range: generally it never exceeds ± 3%.

General

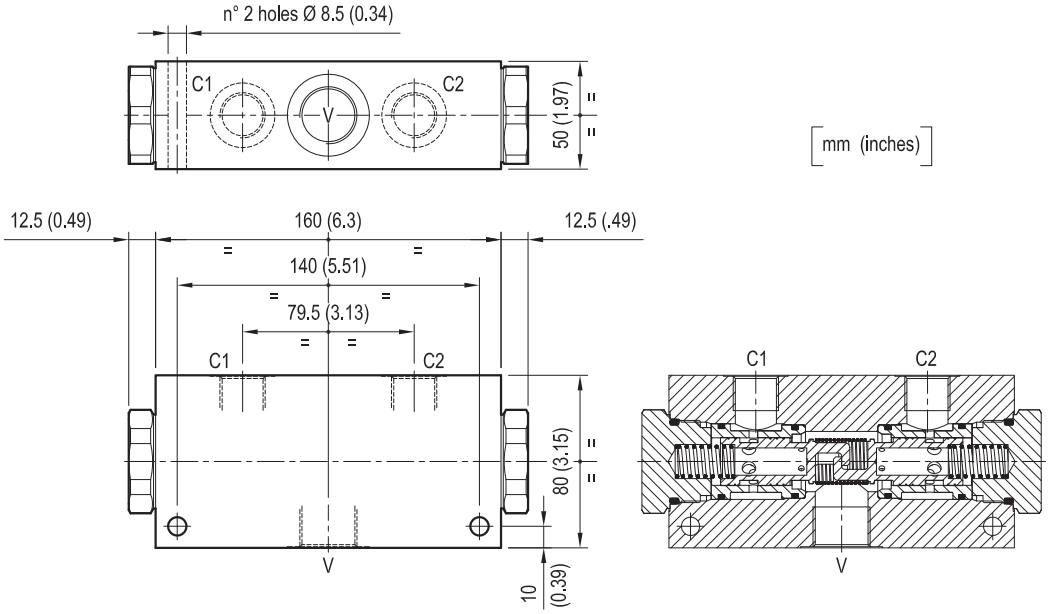
Manifold material		Aluminium

Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.

Weight	kg (lbs)	2.2 (4.9)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.51.03.90	04	Z

Flow divider, combiner

	INLET CAPACITY
= 52	28 to 55 l/min (7.4 to 14.53 gpm)
= 95	56 to 95 l/min (14.8 to 25.1 gpm)
= 150	90 to 150 l/min (27.78 to 39.63 gpm)

Port sizes	V	C1 - C2	
	G 3/4	G 1/2	

Type	Material number
0M510390045200A	R930001930
0M510390049500A	R930001889
0M510390041500A	R930005816

Type	Material number

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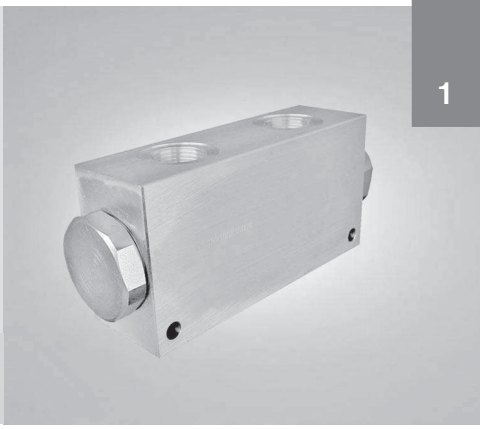
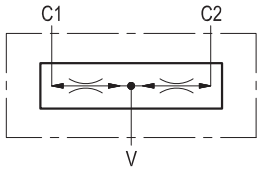
RE 18309-58/07.12
Replaces: RE 18309-58/04.10

Flow divider, combiner



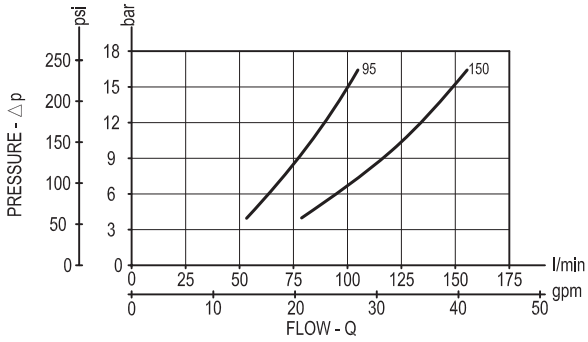
DRF **0M.51.03.90.05 - Z**



Description

This valve gives division of input flow from V to C1-C2, and re-combines flows in reverse direction from C1-C2 to V. The ratio between the flows through C1 and through C2 is maintained constant (typically 50% / 50%) over a wide range of pressure variations and of pressure imbalance in order to synchronize the motion of 2 actuators in both forward and reverse directions. In flow division mode, should either C1 or C2 be blocked, approximately 1÷2% of the available flow can be forced through the port still open.

Performance



Technical data

Hydraulic

Operating pressure	bar (psi)	up to 210 (3000)

Flow division ratio: 50% - 50%

For any chosen inlet flow capacity (refer to table Z), the slippage, or the difference from theoretical value between the divided flows, depends from the inlet flow, and is lowest in the top portion of the selected range: generally it never exceeds ± 3%.

General

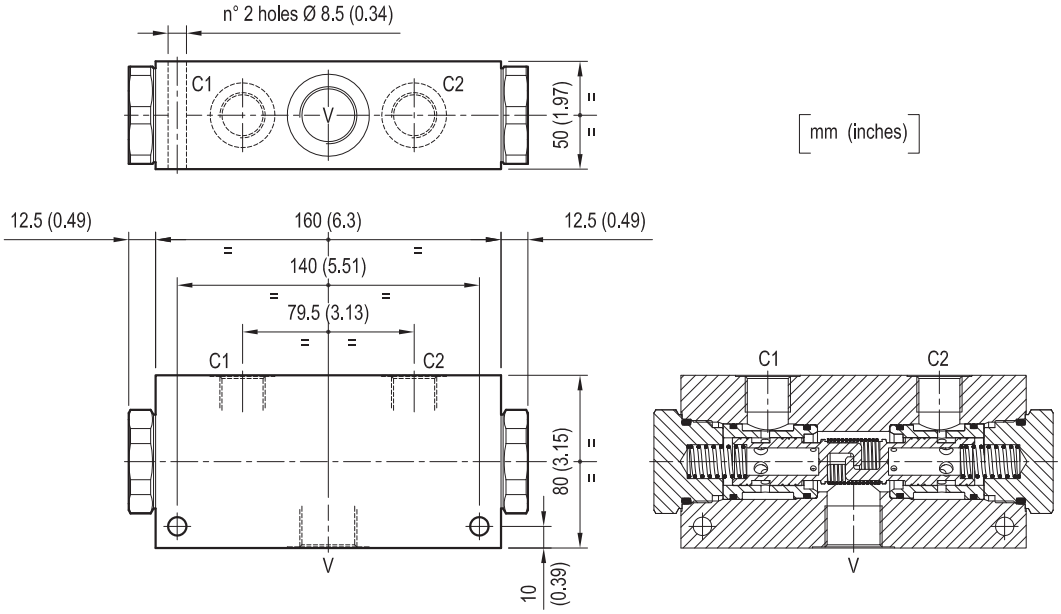
Manifold material		Aluminium

Note: aluminium bodies are often strong enough for operating pressures exceeding 210 bar (3000 psi), depending from the fatigue life expected in the specific application. If in doubt, consult our Service Network.

Weight	kg (lbs)	2.2 (4.9)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.51.03.90	05	Z

Flow divider, combiner

	INLET CAPACITY
= 95	56 to 95 l/min (14.8 to 25.1 gpm)
= 150	90 to 150 l/min (27.78 to 39.63 gpm)

Port sizes	V	C1 - C2	
	G 1	G 3/4	

Type	Material number
0M510390059500A	R930001891
0M510390051500A	R930005817

Type	Material number

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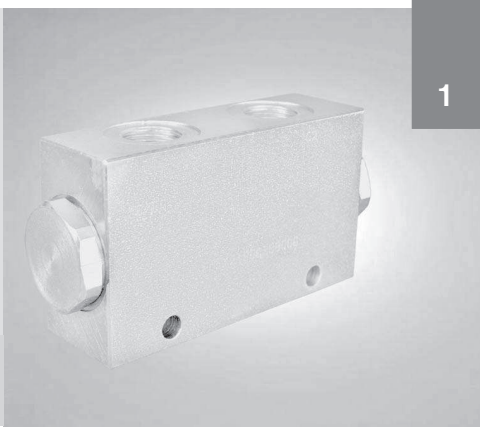
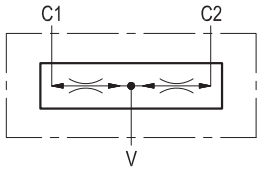
RE 18309-59/04.10 1/2
Replaces: RE 00171/02.07

Flow divider, combiner



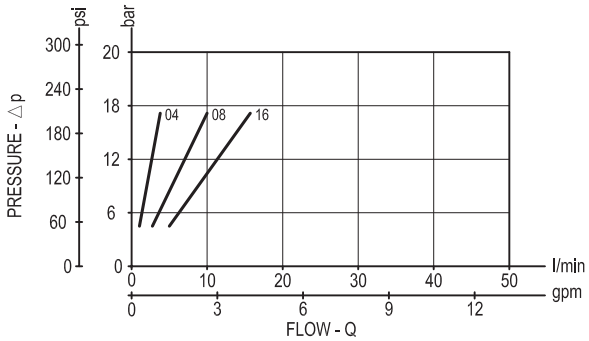
A-DRF **0M.E1.21.90.02 - Z**



Description

This valve gives division of input flow from V to C1-C2, and re-combines flows in reverse direction from C1-C2 to V. The ratio between the flows through C1 and through C2 is maintained constant (typically 50% / 50%) over a wide range of pressure variations and of pressure imbalance in order to synchronize the motion of 2 actuators in both forward and reverse directions. In flow division mode, should either C1 or C2 be blocked, approximately 1÷2% of the available flow can be forced through the port still open.

Performance



Technical data

Hydraulic

Max operating pressure	bar (psi)	350 (5000)

Flow division ratio: 50% - 50%

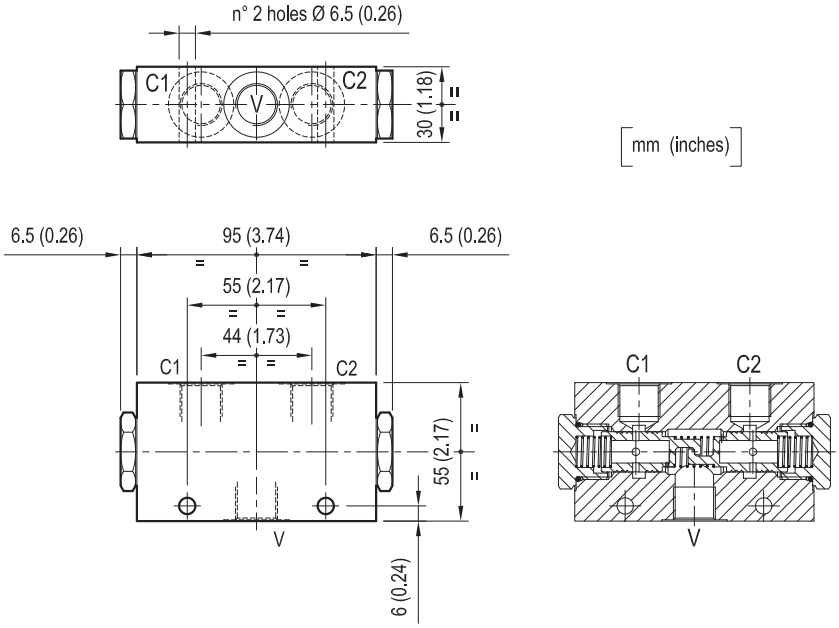
For any chosen inlet flow capacity (refer to table Z), the slippage, or the difference from theoretical value between the divided flows, depends from the inlet flow, and is lowest in the top portion of the selected range: generally it never exceeds ± 3%.

General

Manifold material		Steel
Weight	kg (lbs)	1.1 (2.43)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.E1.21.90	02	Z

Flow divider, combiner

Port sizes	V	C1 - C2	
	G 3/8	G 3/8	

	INLET CAPACITY
= 04	2 to 4 l/min (0.53 to 1.04 gpm)
= 08	4 to 8 l/min (1.06 to 2.11 gpm)
= 16	8 to 16 l/min (2.11 to 4.23 gpm)

Type	Material number
0ME12190020400B	R930004500
0ME12190020800B	R930004502
0ME12190021600B	R930004503

Type	Material number

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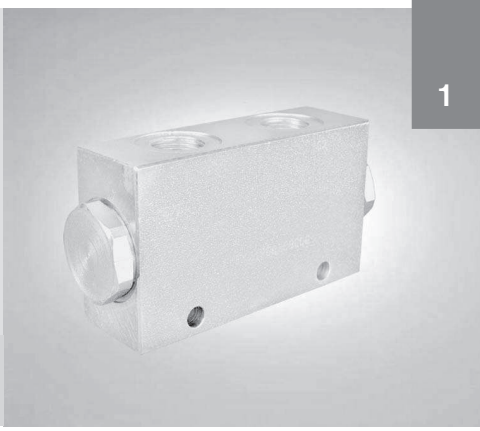
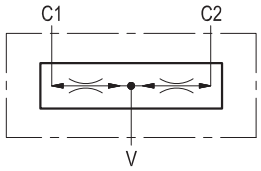
RE 18309-60/04.10 1/2
Replaces: RE 00171/02.07

Flow divider, combiner



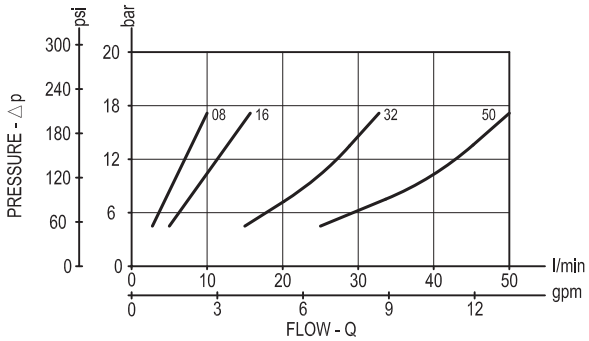
A-DRF **0M.E1.21.90.03 - Z**



Description

This valve gives division of input flow from V to C1-C2, and re-combines flows in reverse direction from C1-C2 to V. The ratio between the flows through C1 and through C2 is maintained constant (typically 50% / 50%) over a wide range of pressure variations and of pressure imbalance in order to synchronize the motion of 2 actuators in both forward and reverse directions. In flow division mode, should either C1 or C2 be blocked, approximately 1÷2% of the available flow can be forced through the port still open.

Performance



Technical data

Hydraulic

Max operating pressure	bar (psi)	350 (5000)

Flow division ratio: 50% - 50%

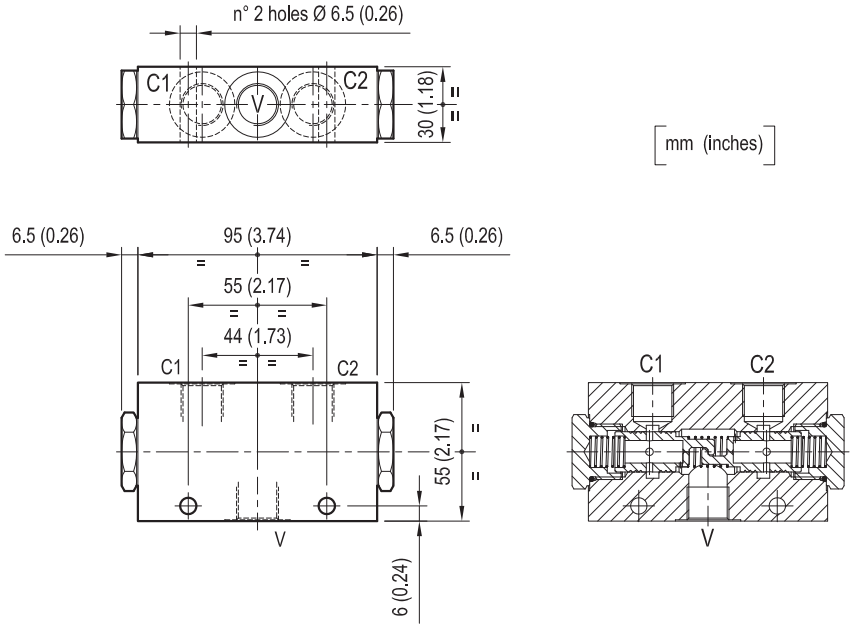
For any chosen inlet flow capacity (refer to table Z), the slippage, or the difference from theoretical value between the divided flows, depends from the inlet flow, and is lowest in the top portion of the selected range: generally it never exceeds ± 3%.

General

Manifold material		Steel
Weight	kg (lbs)	1.1 (2.43)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.E1.21.90	03	Z

Flow divider, combiner

Port sizes	V	C1 - C2	
	G 1/2	G 3/8	

	INLET CAPACITY
= 08	4 to 8 l/min (1.06 to 2.11 gpm)
= 16	8 to 16 l/min (2.11 to 4.23 gpm)
= 32	16 to 32 l/min (4.23 to 8.45 gpm)
= 50	25 to 50 l/min (6.61 to 13.21 gpm)

Type	Material number
0ME12190030800B	R930004506
0ME12190031600B	R930004507
0ME12190033200B	R930004509
0ME12190035000B	R930004510

Type	Material number

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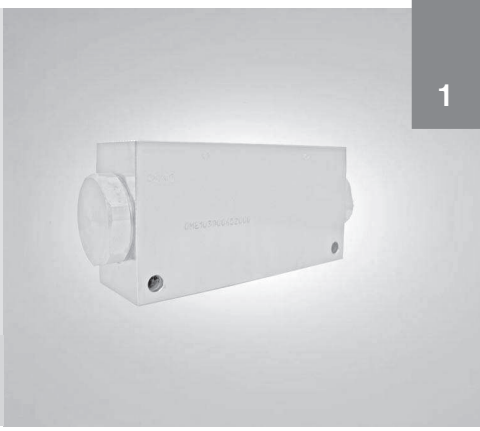
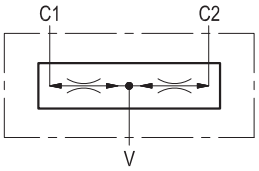
RE 18309-61/07.12
Replaces: RE 18309-61/04.10

Flow divider, combiner



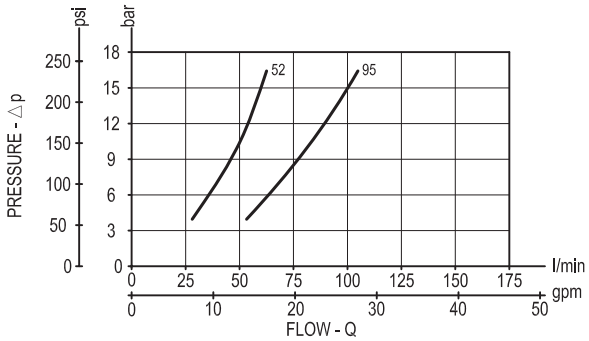
A-DRF **0M.E1.03.90.04 - Z**



Description

This valve gives division of input flow from V to C1-C2, and re-combines flows in reverse direction from C1-C2 to V. The ratio between the flows through C1 and through C2 is maintained constant (typically 50% / 50%) over a wide range of pressure variations and of pressure imbalance in order to synchronize the motion of 2 actuators in both forward and reverse directions. In flow division mode, should either C1 or C2 be blocked, approximately 1÷2% of the available flow can be forced through the port still open.

Performance



Technical data

Hydraulic

Max. operating pressure	bar (psi)	350 (5000)

Flow division ratio: 50% - 50%

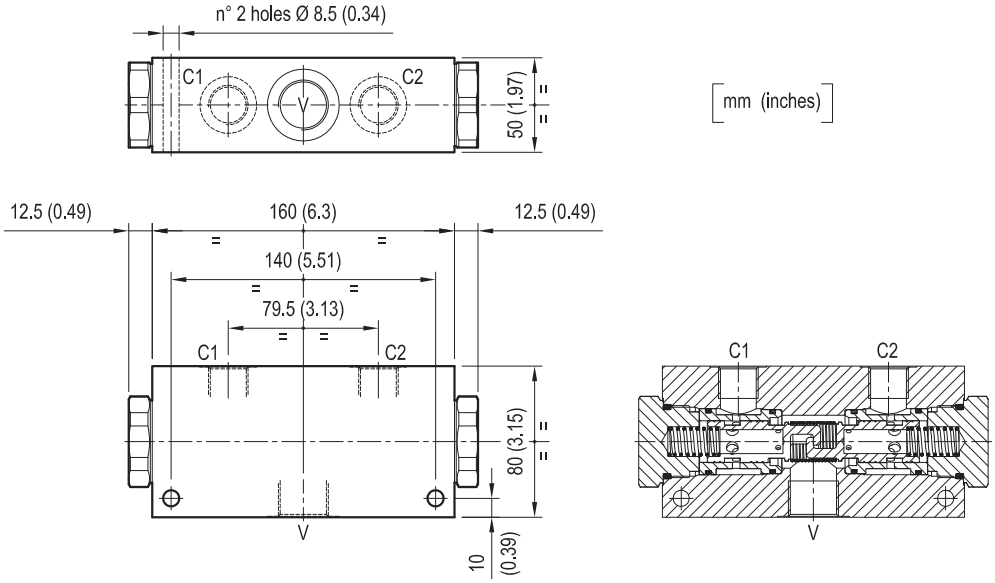
For any chosen inlet flow capacity (refer to table Z), the slippage, or the difference from theoretical value between the divided flows, depends from the inlet flow, and is lowest in the top portion of the selected range: generally it never exceeds ± 3%.

General

Manifold material		Steel
Weight	kg (lbs)	4.5 (9.9)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.E1.03.90	04	Z

Flow divider, combiner

	INLET CAPACITY
= 52	28 to 55 l/min (7.4 to 14.53 gpm)
= 95	56 to 95 l/min (14.8 to 25.1 gpm)

Port sizes	V	C1 - C2	
	G 3/4	G 1/2	

Type	Material number
0ME10390045200A	R930001929
0ME10390049500A	R930001901

Type	Material number

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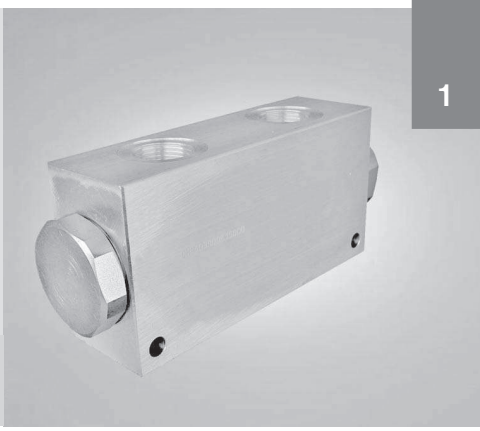
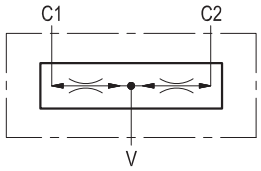
RE 18309-62/07.12
Replaces: RE 18309-62/04.10

Flow divider, combiner



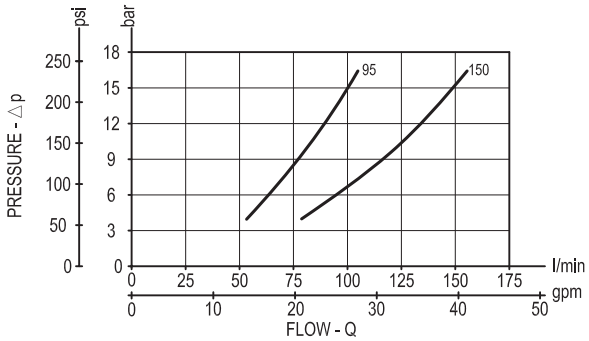
A-DRF **0M.E1.03.90.05 - Z**



Description

This valve gives division of input flow from V to C1-C2, and re-combines flows in reverse direction from C1-C2 to V. The ratio between the flows through C1 and through C2 is maintained constant (typically 50% / 50%) over a wide range of pressure variations and of pressure imbalance in order to synchronize the motion of 2 actuators in both forward and reverse directions. In flow division mode, should either C1 or C2 be blocked, approximately 1÷2% of the available flow can be forced through the port still open.

Performance



Technical data

Hydraulic

Max. operating pressure	bar (psi)	350 (5000)

Flow division ratio: 50% - 50%

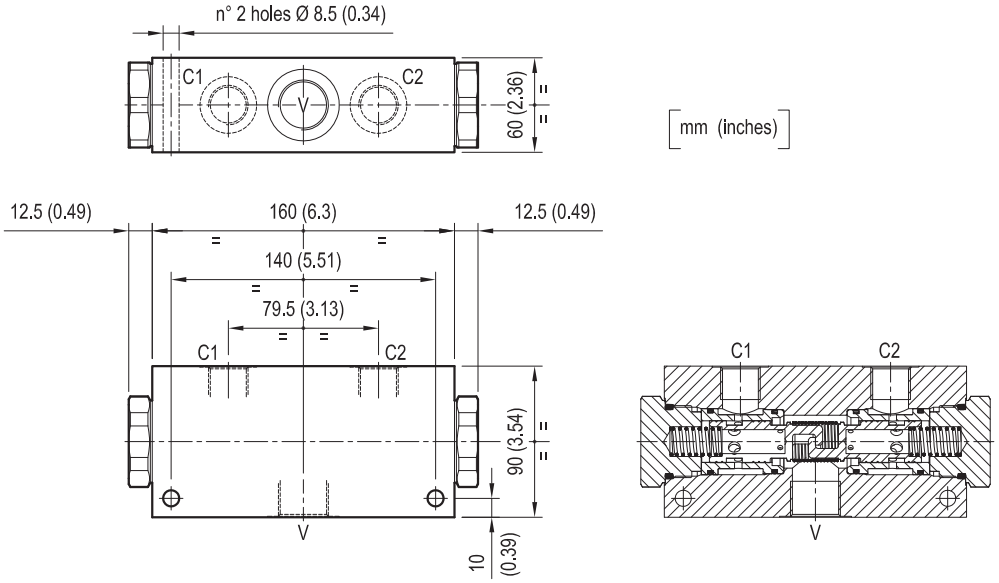
For any chosen inlet flow capacity (refer to table Z), the slippage, or the difference from theoretical value between the divided flows, depends from the inlet flow, and is lowest in the top portion of the selected range: generally it never exceeds ± 3%.

General

Manifold material		Steel
Weight	kg (lbs)	6.1 (13.3)
Fluid temperature range	°C (°F)	between -30 (-22) and +100 (212)
Other technical data		see data sheet RE 18350-50

Note: for applications outside these parameters, please consult us.

Dimensions



Ordering code

0M.E1.03.90	05	Z

Flow divider, combiner

	INLET CAPACITY
= 95	56 to 95 l/min (14.8 to 25.1 gpm)
= 150	90 to 150 l/min (27.78 to 39.63 gpm)

Port sizes	V	C1 - C2	
	G 1	G 3/4	

Type	Material number
0ME10390059500A	R930001903
0ME10390051500A	R930005819

Type	Material number

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