- > Compact design - Maxseal valves
- > SIL certified components and system
- > Exhaust guards as standard
- > Cable terminations inside coil housing
- > International approvals
- > Stainless steel construction
- > Utilizing industry proven technology

Technical features

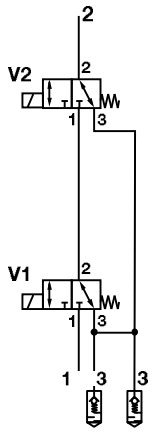
Medium:
Filtered, non-lubricated or dry compressed air, instrument air
nitrogen and other non-flammable neutral dry fluids
Operation:
3/2 Direct solenoid operated poppet valves
Mounting position:
Valves vertical only
Operating pressure:
12 bar (174 psi) (10 bar (145 psi) with CSA approval)

Flow:
Standard valves 300 ... 470 l/min
High flow valves 860 ... 1250 l/min
details see page 2
Port size:
G 1/4, 1/4 NPT, G 1/2, 1/2 NPT
Additional filter:
Installation of an in-line filter is recommended (in the direction of flow **from the actuator to RVM).**

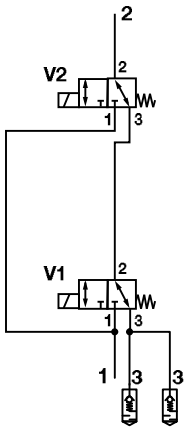
Temperature range:
Up to -55 to 80°C (-67 ... 176°F), see option selector page 2
Air supply must be dry enough to avoid ice formation at temperatures below 2°C (35°F)
Temperature range of solenoid valve:
See option selector and corresponding valve data on pages 10 12

Materials:
Manifold and valve: stainless steel 1.4404 (316 L)
Seals: NBR
Internal parts: stainless steel 1.4404 (316 L)

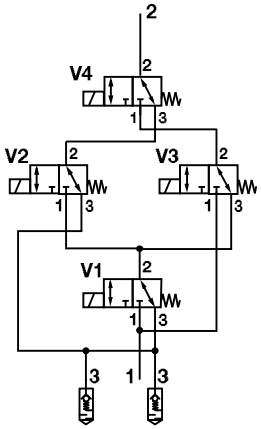
1oo2 with exhaust guards



2oo2 with exhaust guards



2oo3 with exhaust guards *1)



V Solenoid actuated valves

*1) for 2oo3
V1 channel 1
V2 V3 channel 2
V4 channel 3

*1) for 3oo4
V1 channel 1
V2 channel 2
V3 channel 3
V4 channel 4

Please have a look to instructions

Option selector

V84★★★★★0★000000

Valve function	Substitute
1oo2 normally closed	1
2oo2 normally closed	3
2oo3 normally closed	5

Port sizes	Substitute
G1/4 (Standard flow)	11
1/4 NPT (Standard flow)	12
G1/2 (High flow)	23
1/2 NPT (High flow)	24

Valve type	Solenoid Protection	Voltage	Cable Entry	Substitute
Standard flow				
YX13ANPH1BS	Exia	24 Vd.c.	M20 x1,5	01
Y013ANPH1BS	Exd	24 Vd.c.	M20 x1,5	02
Y□13ANPH1BS	Exmbe	24 Vd.c.	M20 x1,5	03
Y013ANPH1MS	Exd	230 Va.c.	M20 x1,5	04
Y□13ANPH1MS	Exmbe	230 Va.c.	M20 x1,5	05
YX13ANPH2BS	Exia	24 Vd.c.	1/2 NPT	06
Y013ANPH2BS	Exd	24 Vd.c.	1/2 NPT	07
Y□13ANPH2BS	Exmbe	24 Vd.c.	1/2 NPT	08
Y013ANPH2MS	Exd	230 Va.c.	1/2 NPT	09
Y□13ANPH2MS	Exmbe	230 Va.c.	1/2 NPT	10
Y013ANPH1BS-2W	Exd	24Vd.c.	M20x1,5	22
Y013ANPV1BS-2W	Exd	24Vd.c.	M20x1,5	24
Y013ANPH2BS-2W	Exd	24Vd.c.	1/2 NPT	28
Y013ANPH2ES	Exd	125Vd.c.	1/2 NPT	30
Y013ANPH2□S	Exd	110Va.c.	1/2 NPT	31
Y013ANPH2□S	Exd	110Va.c.	M20x1,5	32
Y□13ANPH2ES	Exmbe	125Vd.c.	1/2 NPT	42
Y□13ANPH2□S	Exmbe	110Va.c.	1/2 NPT	43
Y□13ANPH2TS	Exmbe	120Va.c.	1/2 NPT	44
Standard flow (PBMR)				
Y013PNPH1BS	Exd	24Vd.c.	M20x1,5	21
Y013PNPH2BS	Exd	24Vd.c.	1/2 NPT	25
Y013PNPH2□S	Exd	110Va.c.	1/2 NPT	26
Y013PNPH2BS-2W	Exd	24Vd.c.	1/2 NPT	29
Y013PNPH1BS-2W	Exd	24Va.c.	M20x1,5	33
Y013PNPH2ES	Exd	125Vd.c.	1/2 NPT	45
High flow				
Y013AMMH1BS	Exd	24 Vd.c.	M20 x1,5	12
Y□13AMMH1BS	Exmbe	24 Vd.c.	M20 x1,5	13
Y013AMMH1MS	Exd	230 Va.c.	M20 x1,5	14
Y□13AMMH1MS	Exmbe	230 Va.c.	M20 x1,5	15
Y013AMMH2BS	Exd	24 Vd.c.	1/2 NPT	17
Y□13AMMH2BS	Exmbe	24 Vd.c.	1/2 NPT	18
Y013AMMH2MS	Exd	230 Va.c.	1/2 NPT	19
Y□13AMMH2MS	Exmbe	230 Va.c.	1/2 NPT	20
Y013AMMH1□S	Exd	110Va.c.	M20x1,5	39
Y013AMMH2ES	Exd	125Vd.c.	1/2 NPT	41
High flow (PBMR)				
Y013PMMH2□S	Exd	110Va.c.	1/2 NPT	27
Y013PMMH1BS	Exd	24Vd.c.	M20x1,5	46

Note; Please advise when ordering if CSA certification is required

Country of manufacture	
Norgren internal use	

Silencers*1)	Temperature
Exhaust guard (standard)	-55°C...□80°C

Manifold material	Substitute
Stainless steel	2
Aluminium	4

*1) other silencers can be ordered separately, see page 3

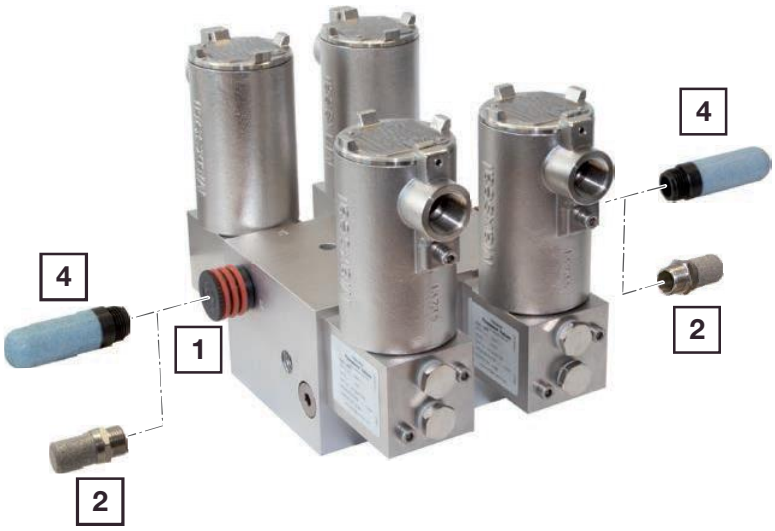
Flow rates and valve combinations

Flow direction (port to port)	Standard flow systems	High flow systems
1oo2	2 x Y*13ANPH*BS	2 x Y*13AMMH*BS
1 » 2 *1) [l/min]	300	870
2 » 3 *2) [l/min]	1830	3720
2oo2	2 x Y*13ANPH*BS	2 x Y*13AMMH*BS
1 » 2 *1) [l/min]	470	1250
2 » 3 *2) [l/min]	1420	2690
2oo3	4 x Y*13ANPH*BS	4 x Y*13AMMH*BS
1 » 2 *1) [l/min]	320	860
2 » 3 *2) [l/min]	1400	2430

*1) Flow characteristics conforms to ISO6358 from port 1 (bypass valve) to port 2 (sub-base) [6 » 5 bar], see page 1

*2) Flow characteristics conforms to ISO6358 from port 2 (sub-base) to port 3 (sub-base or bypass valve) [10 » 0 bar], see page 1

Standard and optional accessories



Accessories - Standard (Included in the scope of supply)

Exhaust guard *2)
1 
Page 14
0613422 (G1/4, 1/4 NPT)
0613423 (G1/2, 1/2 NPT)

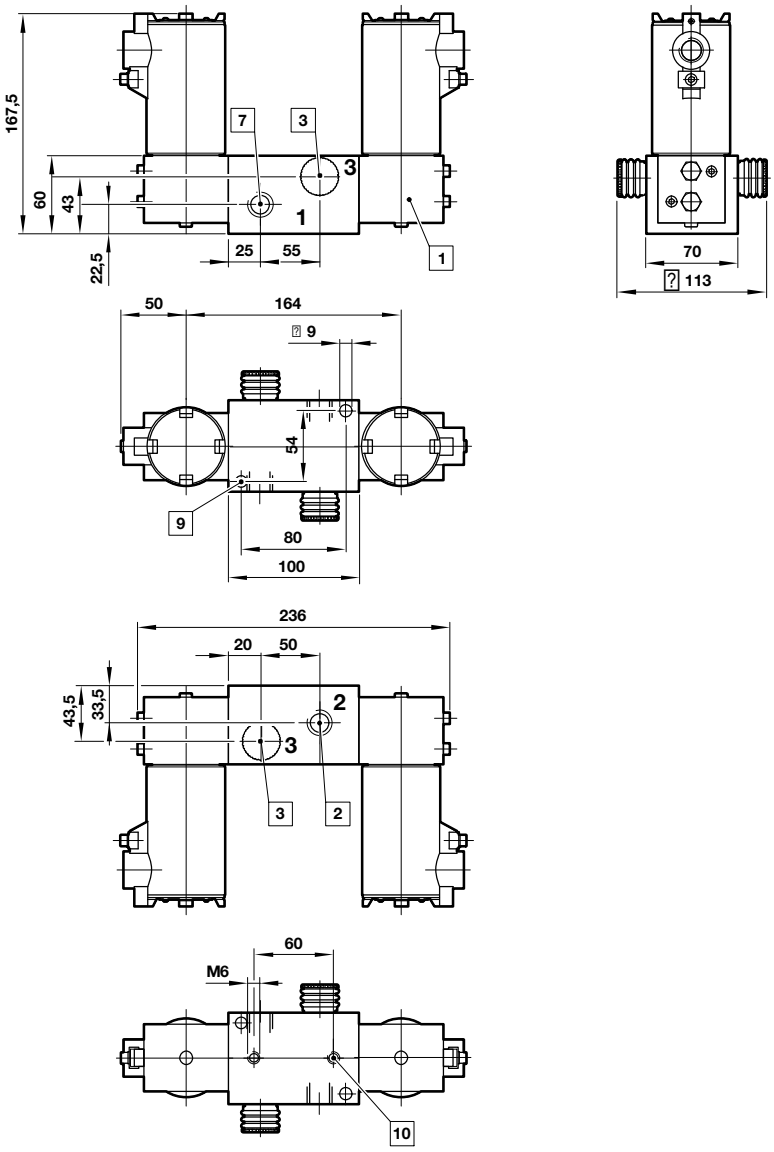
*1) For indoors use
*2) For outdoors use

Accessories - can be ordered separately Other silencers, plastic indicator and plugs

Silencer (stainless steel) *1)	Silencer (plastic) *1)
2 	4 
Page 14	Page 14
0014613 (G1/4)	M/S2 (G1/4)
0613678 (1/4 NPT)	C/S2 (1/4 NPT)
0014813 (G1/2)	M/S4 (G1/2)
0613679 (1/2 NPT)	C/S4 (1/2 NPT)

1oo2 (standard flow)

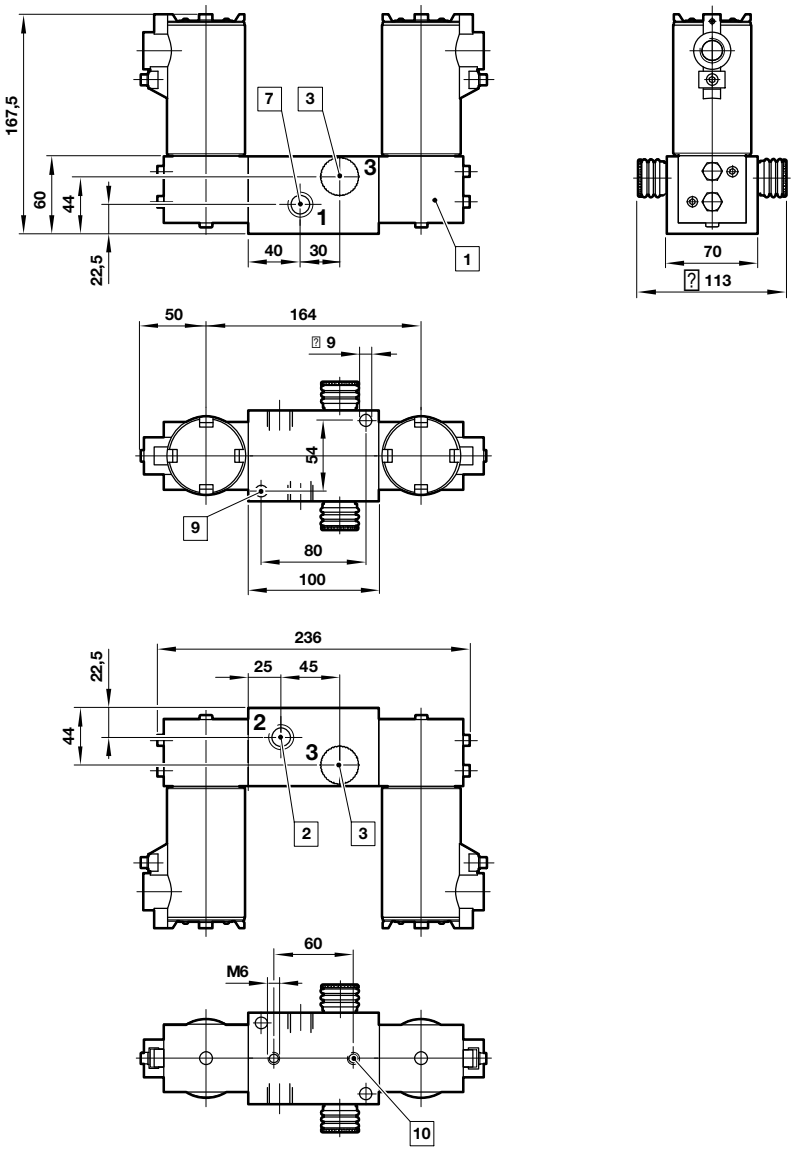
Weight: 1,0 kg aluminium (2,8 kg stainless steel) sub-base only, valves and accessories see refer page 10



1 Valve Y*13ANPH1BS and Y*13ANPH2BS series
2 Outlet port G 1/4 or 1/4 NPT
3 Exhaust guard (sub-base), ports G 1/2 or 1/2 NPT
7 Inlet port G 1/4 or 1/4 NPT
9 Mounting holes
10 Mounting threads as standard or alternative to fix the bracket

2oo2 (standard flow)

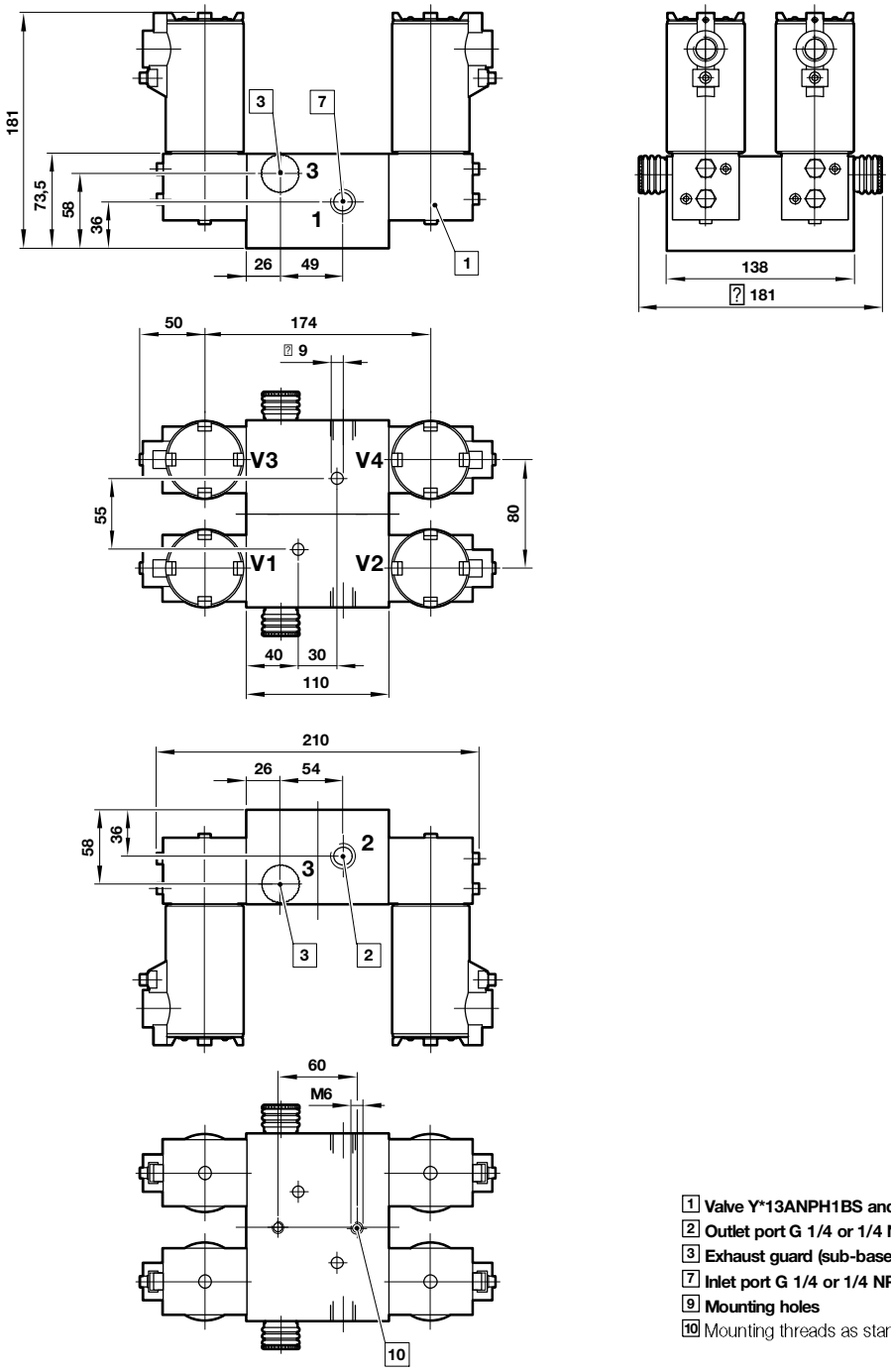
Weight: 1,0 kg aluminium (2,8 kg stainless steel) sub-base only, valves and accessories see refer page 10



1 **Valve Y*13ANPH1BS and Y*13ANPH2BS series**
2 **Outlet port G 1/4 or 1/4 NPT**
3 **Exhaust guard (sub-base), ports G 1/2 or 1/2 NPT**
7 **Inlet port G 1/4 or 1/4 NPT**
9 **Mounting holes**
10 Mounting threads as standard or alternative to fix the bracket

2oo3 (standard flow)

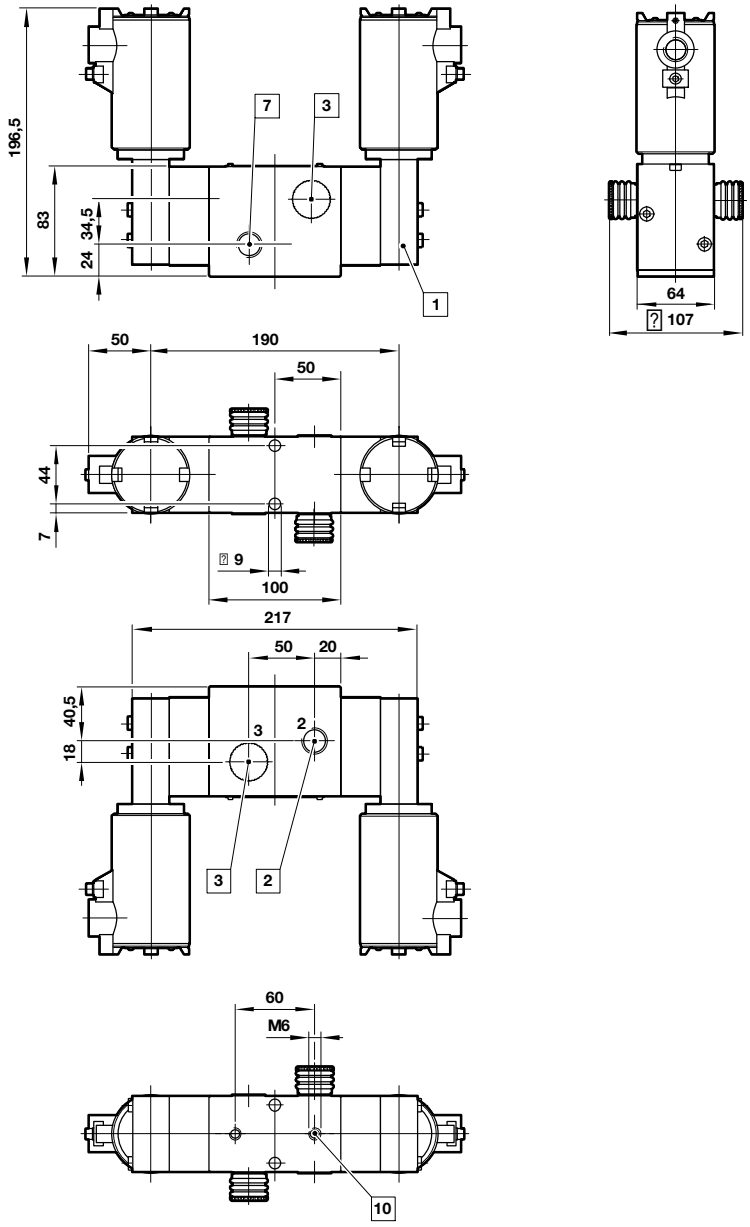
Weight: 2,8 kg aluminium (8,0 kg stainless steel) sub-base only, valves and accessories see refer page 10



1 Valve Y*13ANPH1BS and Y*13ANPH2BS series
2 Outlet port G 1/4 or 1/4 NPT
3 Exhaust guard (sub-base), ports G 1/2 or 1/2 NPT
7 Inlet port G 1/4 or 1/4 NPT
9 Mounting holes
10 Mounting threads as standard or alternative to fix the bracket

1oo2 (high flow)

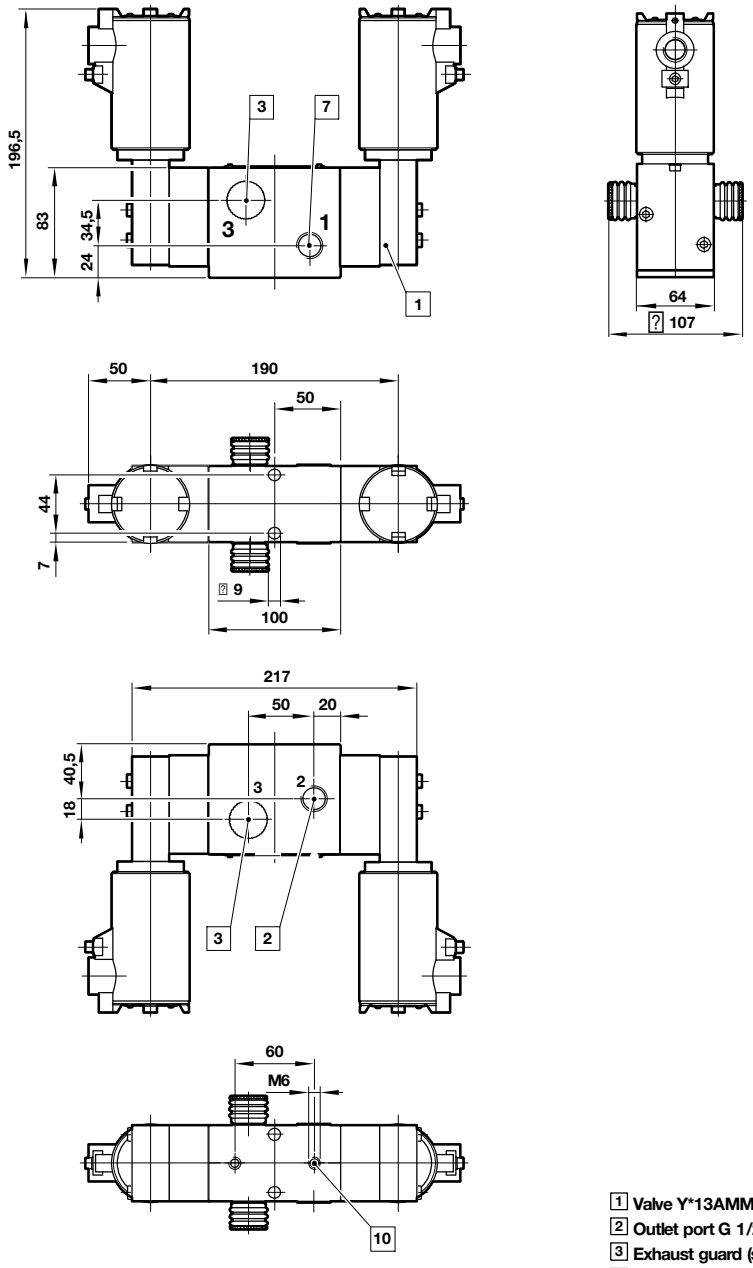
Weight: 1,4 kg aluminium (4,0 kg stainless steel) sub-base only, valves and accessories see refer page 12



1 Valve Y*13AMMH1BS and Y*13AMMH2BS series
2 Outlet port G 1/2 or 1/2 NPT
3 Exhaust guard (sub-base), ports G 1/2 or 1/2 NPT
7 Inlet port G 1/2 or 1/2 NPT
9 Mounting holes
10 Mounting threads as standard or alternative to fix the bracket

2oo2 (high flow)

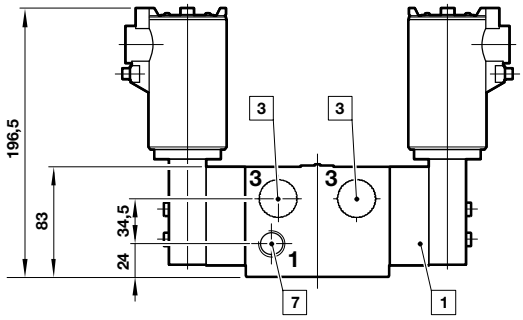
Weight: 1,4 kg aluminium (4,0 kg stainless steel) sub-base only, valves and accessories see refer page 12

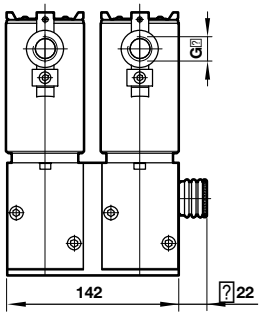


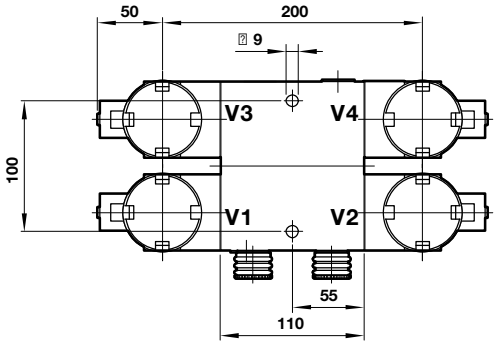
1 **Valve Y*13AMMH1BS and Y*13AMMH2BS series**
2 **Outlet port G 1/2 or 1/2 NPT**
3 **Exhaust guard (sub-base), ports G 1/2 or 1/2 NPT**
7 **Inlet port G 1/2 or 1/2 NPT**
9 **Mounting holes**
10 Mounting threads as standard or alternative to fix the bracket

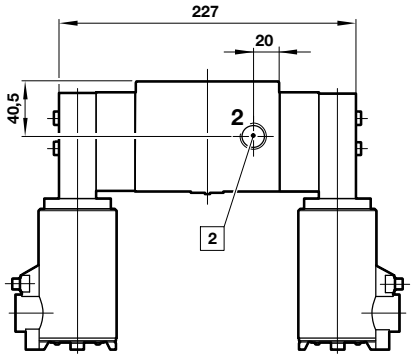
2oo3 (high flow)

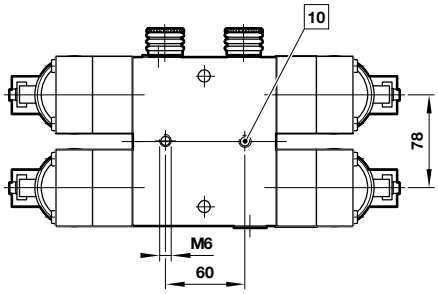
Weight: 3,3 kg aluminium (9,3 kg stainless steel) sub-base only, valves and accessories see refer page 12











1 Valve Y*13AMMH1BS and Y*13AMMH2BS series
2 Outlet port G 1/2 or 1/2 NPT
3 Exhaust guard (sub-base), ports G 1/2 or 1/2 NPT
7 Inlet port G 1/2 or 1/2 NPT
9 Mounting holes
10 Mounting threads as standard or alternative to fix the bracket

- **Standard flow range (600 l/min)**
- **Direct acting 3/2 spring return to safe condition**
- **Suited for outdoor use under critical environment conditions (see solenoid list)**
- **Certifications: IECEx, ATEX, FM, CSA, GOST-R, GOST-K, CCOE, IN-METRO, KOSHA**

Technical features

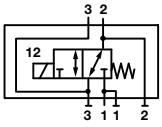
Medium:
Filtered, non-lubricated or dry compressed air, instrument air
nitrogen and other non-flammable neutral dry fluids
Operation:
3/2 Direct solenoid operated poppet valves

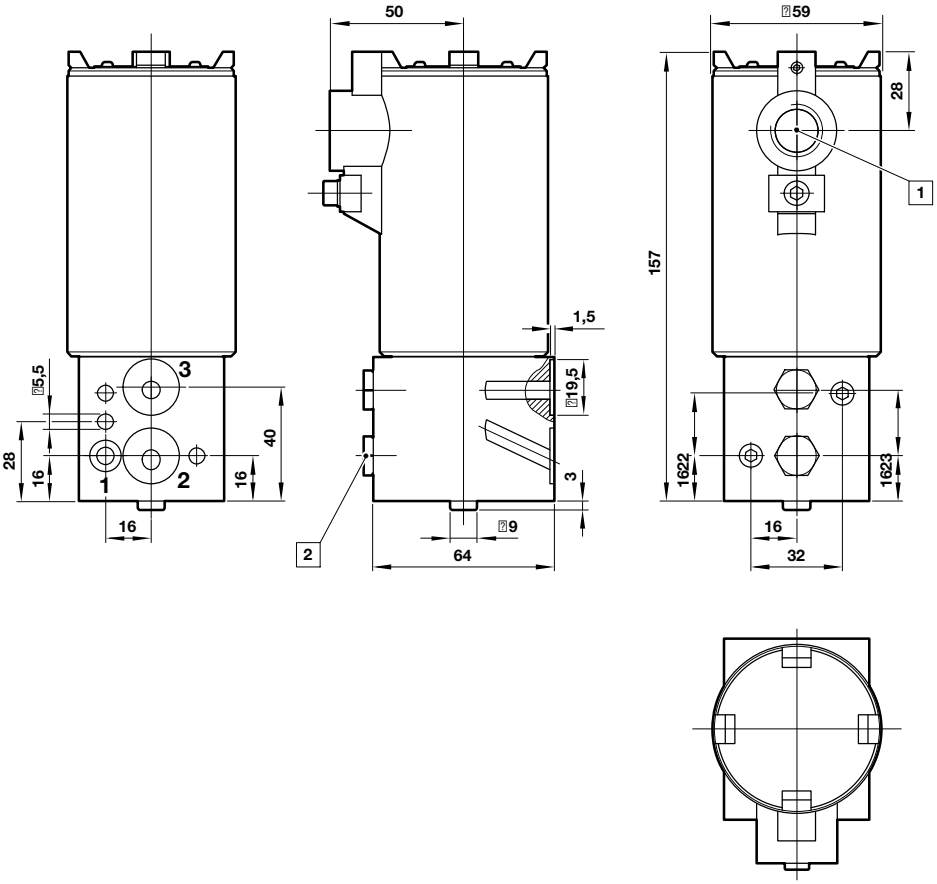
Port size:
Flanged
Orifice:
5 mm
Operating pressure:
0 ... 12 bar (0 ... 174 psi)
(0 ... 10 bar (0 ... 145 psi) with CSA certification)

Fluid/AmbientTemperature:
See table below
Air supply must be dry enough to avoid ice formation at temperatures below 2°C (35°F)
For outdoor installation please protect all connections against moisture ingress

Materials:
Body: stainless steel 1.4404 (316 L)
Coil housing: stainless steel 1.4404 (316 L)
Seals: NBR
Internal parts: stainless steel 1.4404 (316 L)

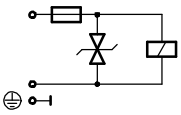
Technical data

Symbol	Power consumption 24 V d.c. (W)	Power consumption 230 V a.c. (VA)	Rated current 24 V d.c. (mA)	Rated current 230 V a.c. (mA)	Certifications FM	Certifications ATEX	Temperature range Media (°C)	Temperature range Ambient (°C)	Electrical connection (conduit)	Model	Substitute
	0,43		35			Ex II 1 GD, Ex ia IIC	-55 ... +69°C	T6 (-55 ... +50°C), T4 (-55 ... +69°C)	M20	Y*13ANPHIBS	01
	3		125		Class I, Division 1, Groups B, C and D	Ex II 2 GD, Ex d IIC	-55 ... +90°C	T6 (-55 ... +50°C), T4 (-55 ... +90°C)	M20	Y013ANPHIBS	02
	3		125			Ex mb II 2 GD, Ex mb IIC	-55 ... +90°C	T4 (-55 ... +80°C)	M20	Y*13ANPHIBS	03
		3,5		20	Class I, Division 1, Groups B, C and D	Ex II 2 GD, Ex d IIC	-55 ... +90°C	T6 (-55 ... +50°C), T4 (-55 ... +90°C)	M20	Y013ANPHIMS	04
		3,5		20		Ex mb II 2 GD, Ex mb IIC	-55 ... +90°C	T4 (-55 ... +80°C)	M20	Y*13ANPHIMS	05
	0,43		35			Ex II 1 GD, Ex ia IIC	-55 ... +69°C	T6 (-55 ... +50°C), T4 (-55 ... +69°C)	1/2 NPT	Y013ANPH2BS	06
	3		125		Class I, Division 1, Groups B, C and D	Ex II 2 GD, Ex d IIC	-55 ... +90°C	T6 (-55 ... +50°C), T4 (-55 ... +90°C)	1/2 NPT	Y013ANPH2BS	07
	3		125			Ex mb II 2 GD, Ex mb IIC	-55 ... +90°C	T4 (-55 ... +80°C)	1/2 NPT	Y*13ANPH2BS	08
		3,5		20	Class I, Division 1, Groups B, C and D	Ex II 2 GD, Ex d IIC	-55 ... +90°C	T6 (-55 ... +50°C), T4 (-55 ... +90°C)	1/2 NPT	Y013ANPH2MS	09
		3,5		20		Ex mb II 2 GD, Ex mb IIC	-55 ... +90°C	T4 (-55 ... +80°C)	1/2 NPT	Y*13ANPH2MS	10



1 Electrical connection M20 x 1,5 or 1/2 NPT
3 Ports plugged
G 1/4: Hexagon head plug
1/4 NPT: Hexagon socket set plug

Circuit diagrams



- > High flow range (1500 l/min)
- > Direct acting 3/2 spring return to safe condition
- > Suited for outdoor use under critical environment conditions (see solenoid list)
- > Certifications: IECEx, ATEX, FM, CSA, GOST-R, GOST-K, CCOE, IN-METRO, KOSHA

Technical features

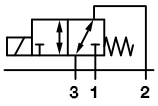
Medium:
Filtered, non-lubricated or dry compressed air, instrument air
nitrogen and other non-flammable neutral dry fluids
Operation:
3/2 Direct solenoid operated poppet valves

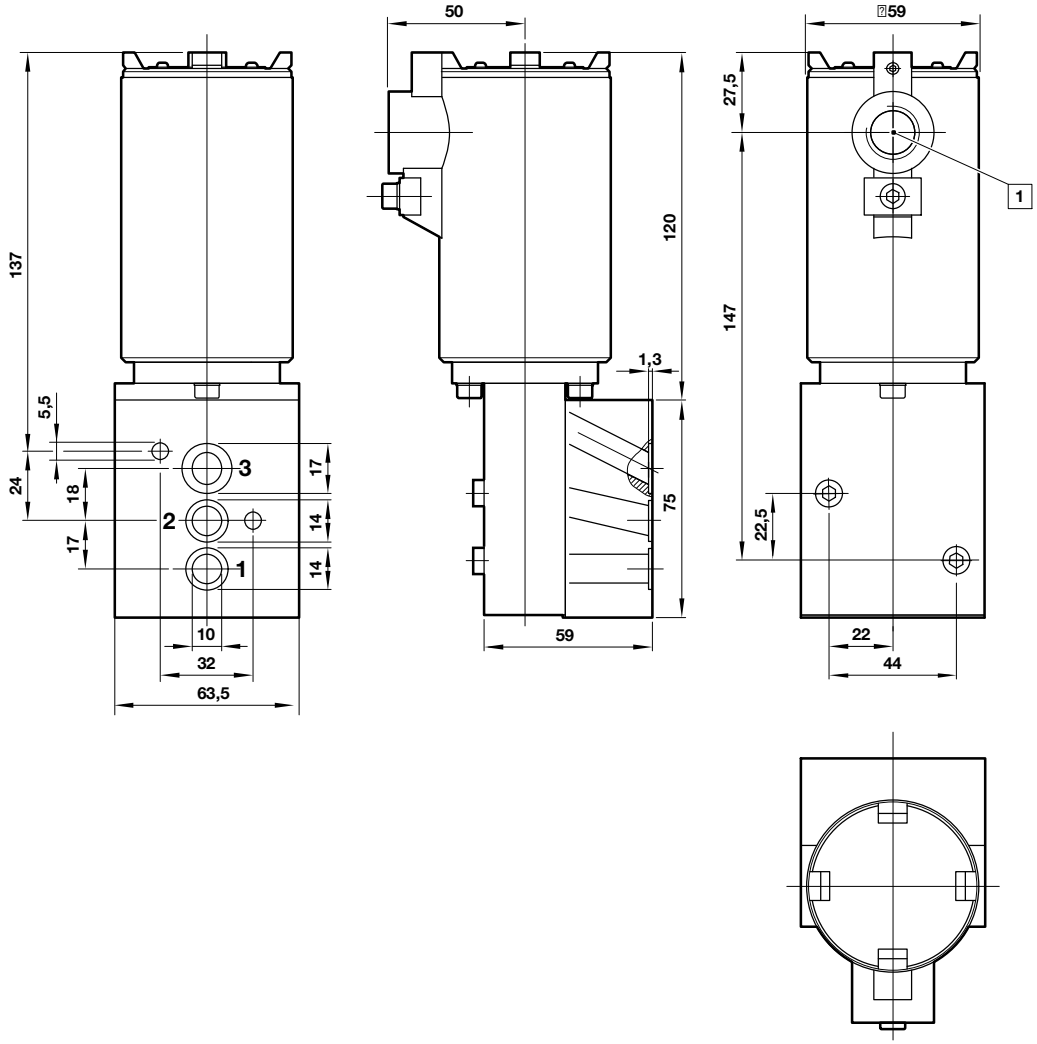
Port size:
Flanged
Orifice:
8 mm
Operating pressure:
0 ... 12 bar (0 ... 174 psi)
(0 ... 10 bar (0 ... 145 psi) CSA)

Fluid/Ambient temperature:
See table below
Depending on solenoid system
Air supply must be dry enough to avoid ice formation at temperatures below 2°C (35°F)
For outdoor installation please protect all connections against moisture ingress

Materials:
Body: stainless steel 1.4404 (316 L)
Coil housing: stainless steel 1.4404 (316 L)
Seals: NBR
Internal parts: stainless steel 1.4404 (316 L)

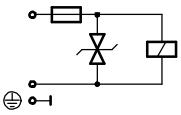
Technical data

Symbol	Power consumption 24 V d.c. (W)	Power consumption 230 V a.c. (VA)	Rated current 24 V d.c. (mA)	Rated current 230 V a.c. (mA)	Certifications FM	Certifications ATEX	Temperature range Media (°C)	Temperature range Ambient (°C)	Electrical connection (conduit)	Model	Substitute
	7,8		325		Class I, Division 1, Groups B, C and D	Ex II 2 GD, Ex d IIC	-55 90°C	T6 (-55 50°C), T4 (-55 90°C)	M20	Y013AMMH1BS	12
	7,8		325			Ex mb II 2 GD, Ex mb IIC	-55 90°C	T4 (-55 80°C)	M20	Y13AMMH1BS	13
		8,5		79	Class I, Division 1, Groups B, C and D	Ex II 2 GD, Ex d IIC	-55 90°C	T6 (-55 50°C), T4 (-55 90°C)	M20	Y013AMMH1MS	14
		8,5		79		Ex mb II 2 GD, Ex mb IIC	-55 90°C	T4 (-55 80°C)	M20	Y13AMMH1MS	15
	7,8		325		Class I, Division 1, Groups B, C and D	Ex II 2 GD, Ex d IIC	-55 90°C	T6 (-55 50°C), T4 (-55 90°C)	1/2 NPT	Y013AMMH2BS	17
	7,8		325			Ex mb II 2 GD, Ex mb IIC	-55 90°C	T4 (-55 80°C)	1/2 NPT	Y13AMMH2BS	18
		8,5		79	Class I, Division 1, Groups B, C and D	Ex II 2 GD, Ex d IIC	-55 90°C	T6 (-55 50°C), T4 (-55 90°C)	1/2 NPT	Y013AMMH2MS	19
		8,5		79		Ex mb II 2 GD, Ex mb IIC	-55 90°C	T4 (-55 80°C)	1/2 NPT	Y13AMMH2MS	20

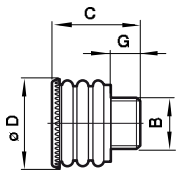


1 Electrical connection M20 x 1,5 or 1/2 NPT

Circuit diagrams

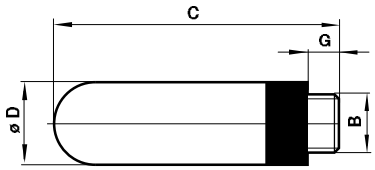


Exhaust guard (plastic) - standard option



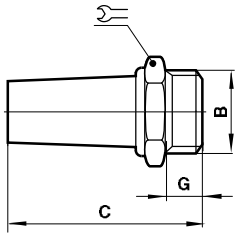
B	Suitable for	G	C	Ø D	Weight (g)	Model
1/4”	G1/4, 1/4 NPT	10	26,5	21	5	0613422
1/2”	G1/2, 1/2 NPT	12	33,5	29	11	0613423

Silencer (plastic)



B	G	C	Ø D	Weight (g)	Model
G1/4	7	35,5	15,5	2,9	M'S2
1/4 NPT	7	35,5	15,5	2,9	C'S2
G1/2	12	67	23	11,5	M'S4
1/2 NPT	12	67	23	11,5	C'S4

Silencer (stainless steel)



B	C	G	⌯	Weight (g)	Model
G1/4	36	8	16	23	0014613
1/4 NPT	36	8	16	67	0613678
G1/2	49	12	24	81	0014813
1/2 NPT	49	12	24	235	0613679

Warning

These products are intended for use in industrial compressed air and fluid systems only. Do not use these products where pressures and temperatures can exceed those listed under **»Technical features/data«.** Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult IMI NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.
The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.
System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

Functional safety (SIL):
Suitable for certain applications can only be evaluated through examination of each safety-related overall system with regard to the requirements of IEC 61508/61511.