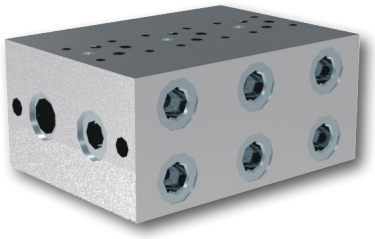
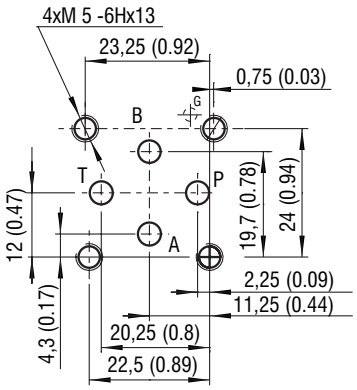
PD04

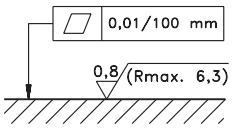
Size 04 (D02) • p_{max} 250 bar (3600 PSI)



ISO 4401-02-01-0-05



Ports P, A, B, T - max ∅4.5mm (0.18 in)



Required surface quality of the counterpart

Technical Features

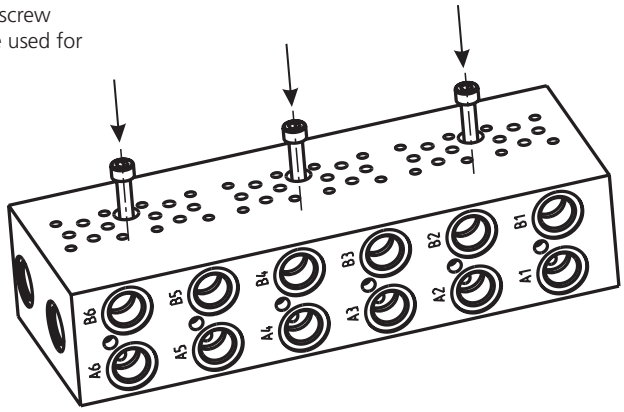
- Designed to connect in parallel two or more ISO 4401-02 (CETOP 02) valves to build compact hydraulics on each axis vertically
- Stackable models (Version S5) with mounting interface for SMA05 hydraulic power unit central block
- Flexible design of various stackable plates enables simple creation of circuits without the use of pipes and fittings
- Maximum 8 parallel modular valve sections may be installed. Optional selection for A and B consumer ports position
- Maximum flow rate can be increased up to double the output if the sub-plates are powered at both ends
- Serial plates are available in aluminium. For other materials consult our technical department for their identification and feasibility
- Includes mounting stud kits for horizontal plate assembly
- BSP and SAE porting
- In the standard version, the aluminium serial plate is without surface protection

Technical Data

Modular valves mounting surface		04 (D02)
Max. operating pressure (aluminium)	bar (PSI)	250 (3630)
Port threads (depending on model)		see table
Weight (depending on model)	kg (lbs)	see table
	Datasheet	Type
General information	GI_0060	Products and operating conditions
Mounting surface	SMT_0019	Size 04 (D02)
Studs and nuts for vertical stacking assemblies		HA_0020

Functional Description

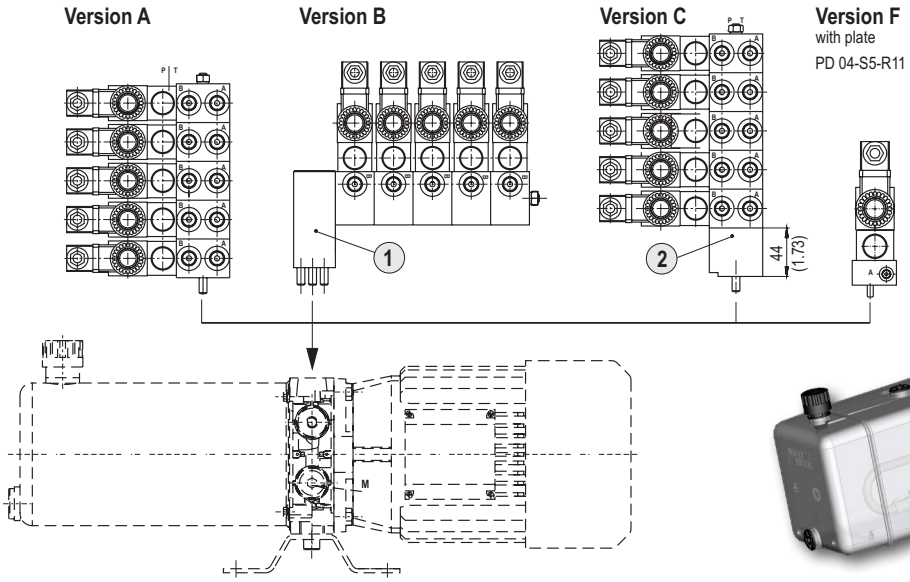
Design version NS (Not Stackable)
The plates of design version NS have from 1 up to 8 sections. They can be used only separately because they do not have any holes for studs. Outputs P1, T1, P, T on both sides have a countersink for a sealing ring.
NS plates have vertical holes for M6 screws. The holes have a countersink for the screw head on one side and feature a connecting M8 thread on the other side. They are used for fixing the plates to a base or a frame.



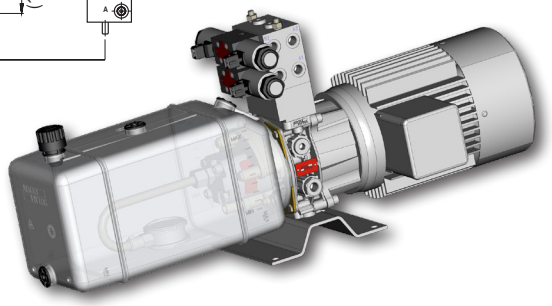
Six-section plate PD04-NS-A6/G3AI. The plate can be fixed to a base or a frame with M6 or M8 screws.

Design version S5 (Stackable for SMA05)

The version S5 is intended for assembly onto the central manifold of power pack SMA05 to extend the control functions. Plates with 1 up to 5 sections have two horizontal through-holes of diameter D 8.4 mm for M8 studs. Side outputs P1, T1 (on the side of the 1st section) have a countersink for a sealing ring. There are four possibilities to connect to the SMA central block (for more details see SMA data sheet 7212). For some types of tanks it is necessary to use a connecting plate due to space requirements.



		SAP No.
1	Connecting plate **B**	16094500
2	Connecting plate **C**	16094700



Ordering Code

PD04 - ☐ - ☐ ☐ / ☐ ☐ - AL ☐ - ☐

Serial plates for ISO 4401-02 (CETOP 02) valves

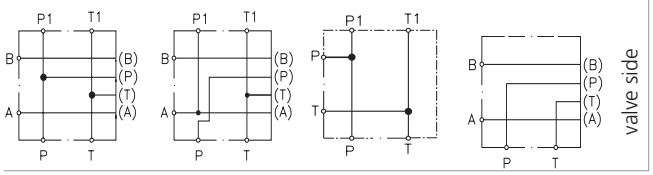
Nominal size

Design version

Non stackable	**NS**
Stackable - for SMA05 power unit central block	**S5**

Functional symbol (section)

A	C	E	R1



Plates PD04-NS are produced only with functional symbol A.
Plates with functional symbols C, E and R1 are produced only as a one section plates. (PD04–S5–C1, PD04-S5-E1, PD04-S5-R11)

Number of sections

1 section	**1**
2 sections	**2**
3 sections	**3**
4 sections	**4**
5 sections	**5**
6 sections	**6**
7 sections	**7**
8 sections	**8**

Number of sections	Design version
1 - 8	NS
1 - 5	S5

Surface Treatment

No designation	aluminium plate without treatment

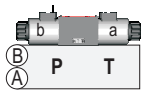
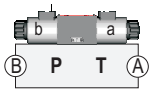
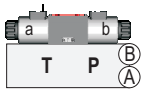
Seals

No designation	without seal rings
N	NBR

Material

AL	aluminium

Side location for A and B consumer ports, and valve position

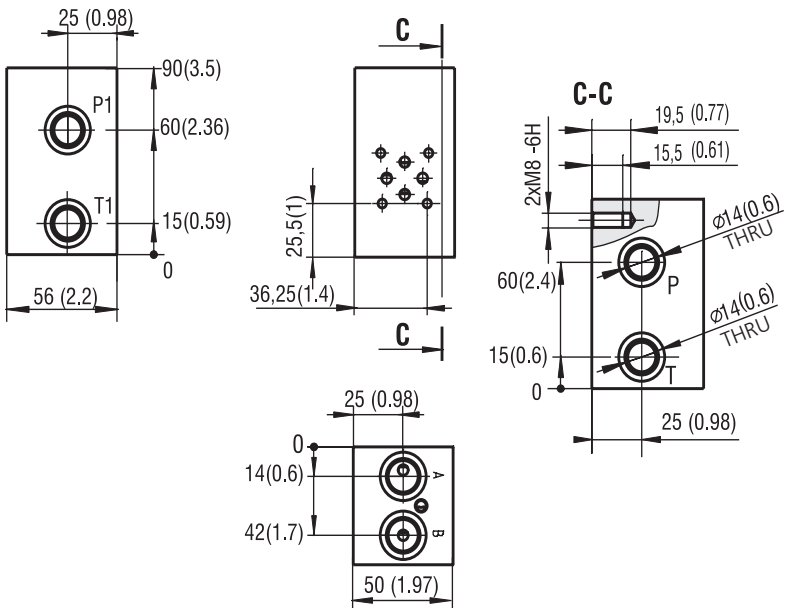
		Design version
AI		PD04–NS, PD04–S5
BI		PD04–S5
A		PD04–S5

Port threads

Designation	P	T	A	B	Used for version
G1	G1/4	G1/4	G1/4	G1/4	S5
G2	G1/4	G1/4	G3/8	G3/8	S5
G3	G3/8	G3/8	G3/8	G3/8	NS 1-8 sections, S5-E1
U1	9/16-18 UNF	9/16-18 UNF	9/16-18 UNF	9/16-18 UNF	S5

The standardised PD plates, listed in this data sheet, are available. For other plate versions contact our technical department for their identification and feasibility.

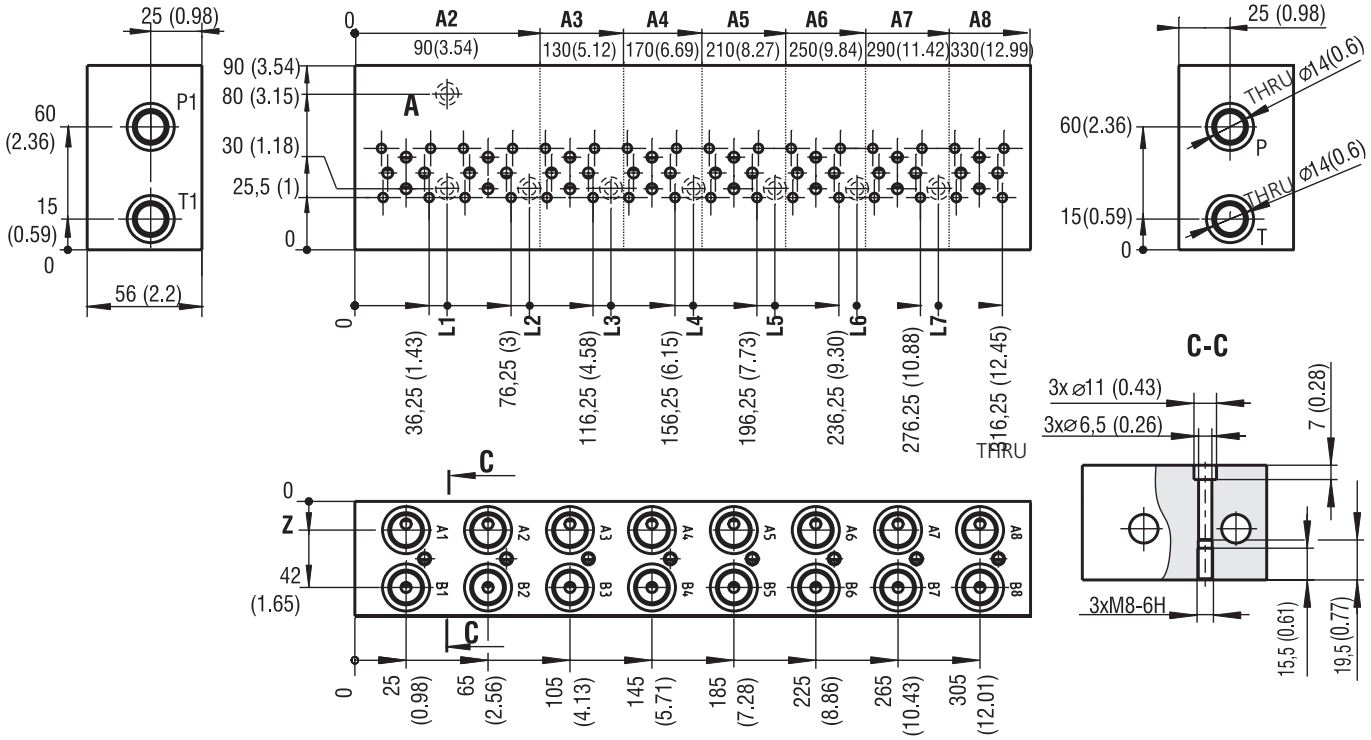
Plate PD04-NS-A1



List of standardised types

Design version	Plate - type	SAP
NS	PD04-NS-A1/G3AI-AL	16105700
	PD04-NS-A2/G3AI-AL	16105800
	PD04-NS-A3/G3AI-AL	16105900
	PD04-NS-A4/G3AI-AL	16106100
	PD04-NS-A5/G3AI-AL	16106300
	PD04-NS-A6/G3AI-AL	16106500
	PD04-NS-A7G3AI-AL	on request only
	PD04-NS-A8/G3AI-AL	16106600

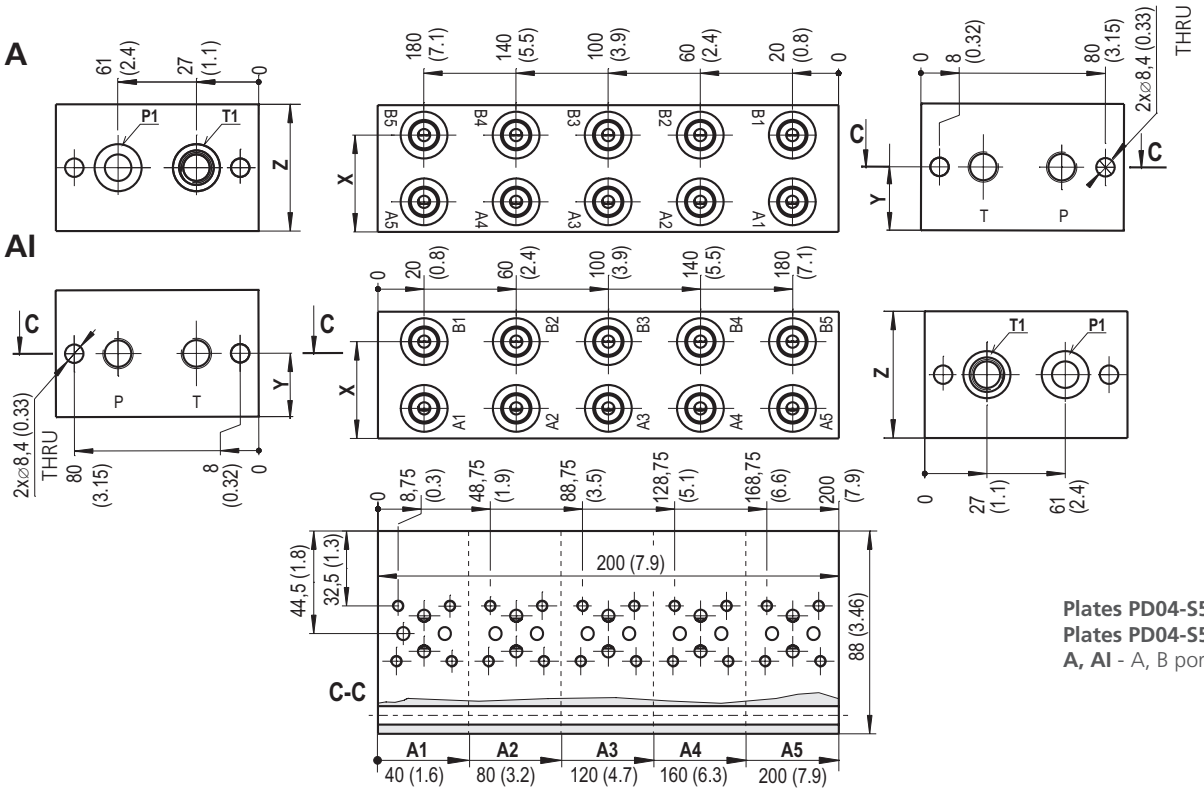
Plates PD04–NS-A2 ..... A8



Plates with 1 ...8 sections Dimensions in millimeters (inches)								
	L1	L2	L3	L4	L5	L6	L7	Z
A1	-	-	-	-	-	-	-	-
A2	45 (1.77)	85 (3.35)	-	-	-	-	-	14 (0.55)
A3		-	-	-	-	-	-	14 (0.55)
A4		-	125 (4.92)	-	-	-	-	14 (0.55)
A5		-	-	165 (6.50)	-	-	-	14 (0.55)
A6		-	125 (4.92)	-	205 (8.07)	-	-	14 (0.55)
A7		-	-	165 (6.50)		245 (9.65)	-	14 (0.55)
A8		-	125 (4.92)	-	205 (8.07)	-	285 (11.22)	11 (0.43)

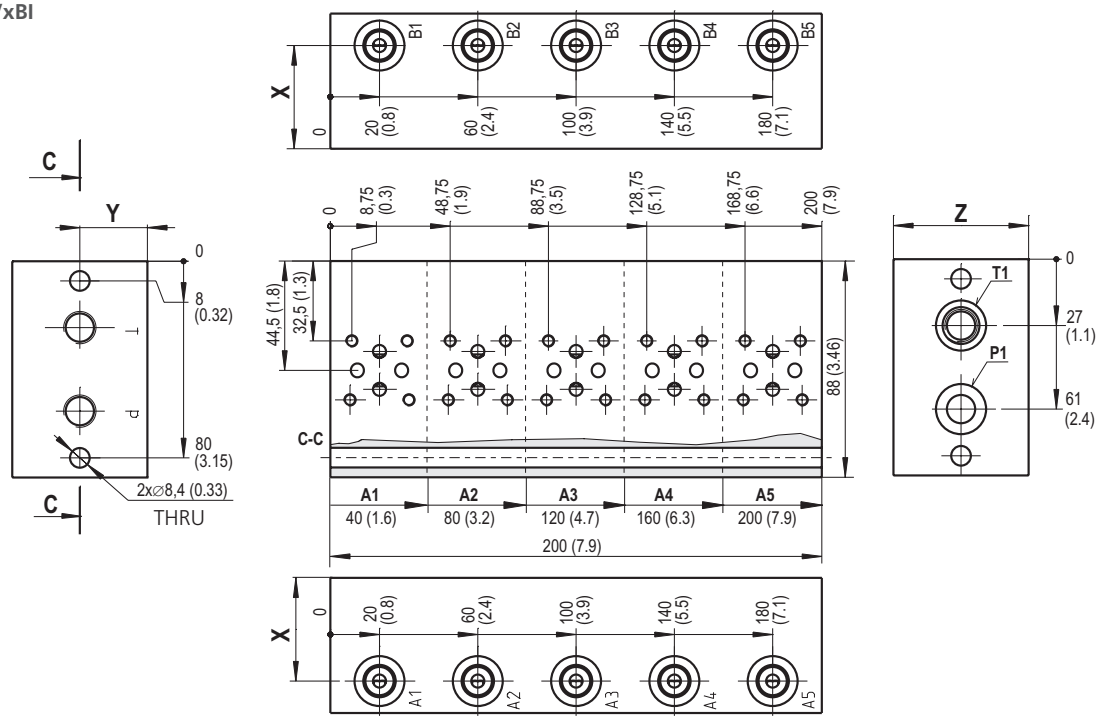
Weight of Plates	kg (lbs)
A1	0.6 (1.32)
A2	1.4 (3.11)
A3	2.1 (4.66)
A4	2.8 (6.21)
A5	3.5 (7.77)
A6	4.2 (9.33)
A7	4.9 (0.19)
A8	5.6 (0.22)

Plates with 1 ...8 sections			
Port threads - designation	NS-A1-A8	**G3**	
Port		A1...A7, B1...B7	P, T, P1, T1
Thread		G3/8	G3/8
Depth of thread		12	12
Counterbore		∅23	∅23
Depth of counterbore		1	1



Plates PD04-S5-A1 ..... A5/xA
Plates PD04-S5-A1 ..... A5/xAI
A, AI - A, B ports on one side

Plates PD04-S5-A1 ..... A5/xBI
BI - A port on one side,
B port on other side

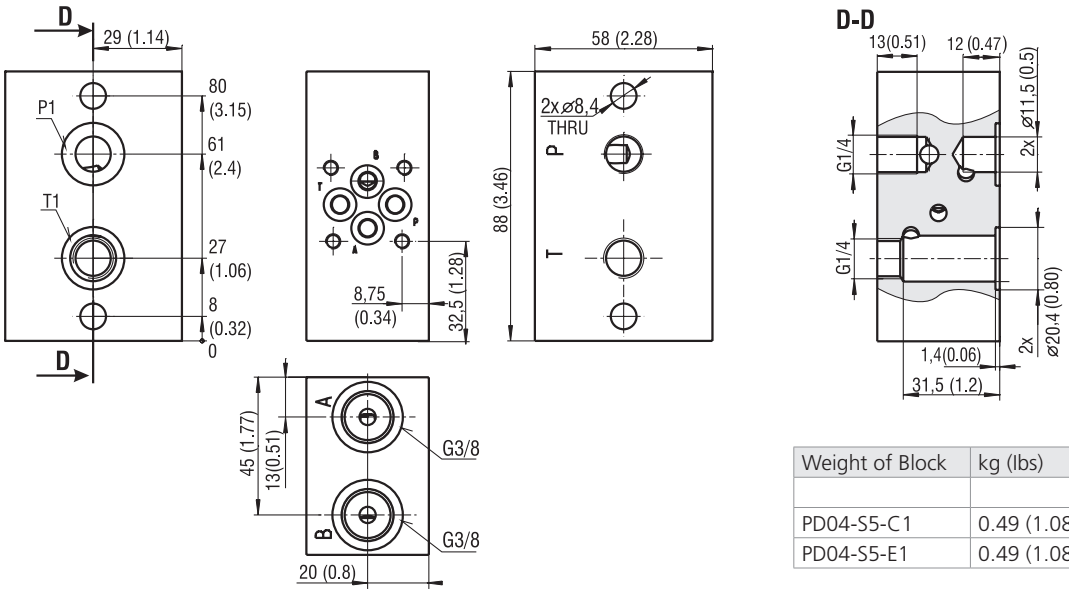


Y
27.5 (1.08)
29 (1.14)
27.5 (1.08)

A1 - A5 Port size (side location A, AI or BI)	Dimensions mm (in)				Weight of Plates	kg (lbs)
	Y	X	Z		A1	0.6 (1.32)
G1	27.5 (1.08)	42 (1.65)	55 (2.17)		A2	1.2 (2.65)
G2	29 (1.14)	45 (1.77)	58 (2.28)		A3	1.8 (3.96)
U1	27.5 (1.08)	42 (1.65)	55 (2.17)		A4	2.4 (5.29)

A1 - A5 (side location A, AI or BI)	Port size											
		A1...A5, B1...B5	P, T	P1, T1		A1...A5, B1...B5	P, T	P1, T1		A1.. A5 B1.. B5	P, T	P1, T1
Thread		G 1/4	G 1/4			G 3/8	G 1/4			9/16-18		
Depth of thread		13.5 (0.53)	13 (0.51)			13.5 (0.53)	13 (0.51)			12.7		
Counterbore		⌀20		⌀20.4		⌀23		⌀20.4		⌀25		⌀20.4
Depth of counterbore		0.5+0.5		1.4		0.5+0.5		1.4		0.5+0.5	0	1.4
O-Ring [mm]	G1			17.17x1.68 NBR70	G2			17.17x1.68 NBR70	U1			17.17x1.68 NBR70

Plate PD04-S5-C1



Weight of Block	kg (lbs)
PD04-S5-C1	0.49 (1.08)
PD04-S5-E1	0.49 (1.08)

Plate PD04-S5-E1

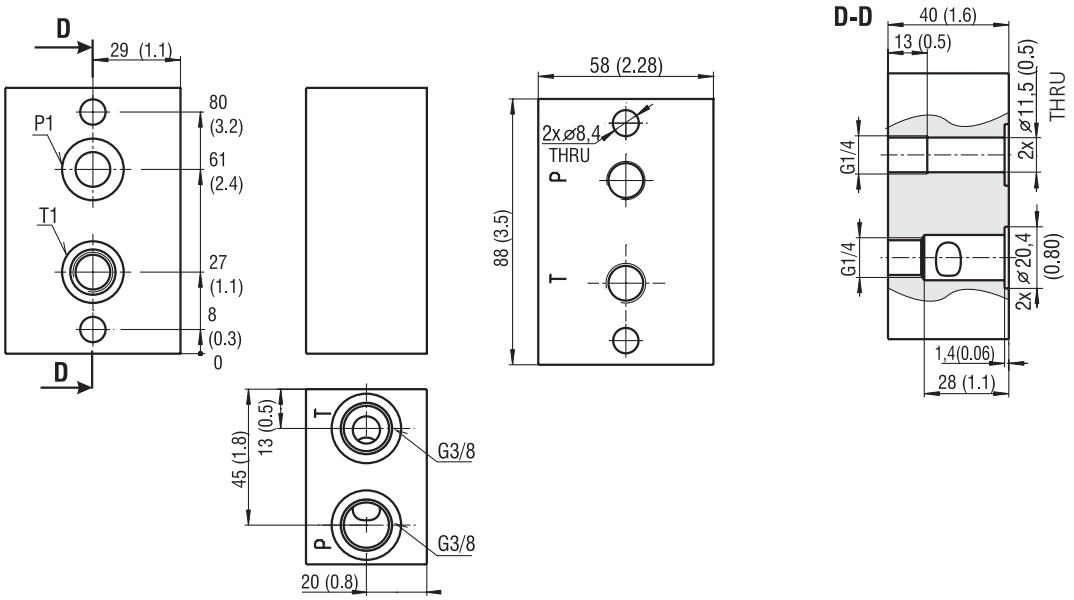
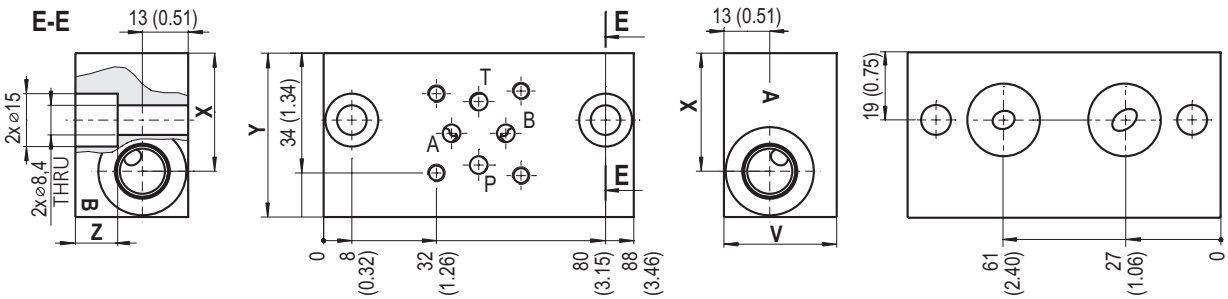


Plate PD04-S5-R11

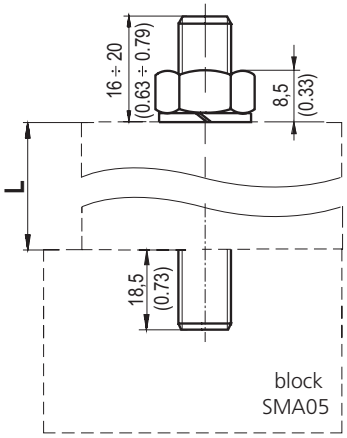


R1 Port size	Dimensions mm (in)					Weight of Plates	kg (lbs)
	V	Y	X	Z			
G1	30 (1.18)	46 (1.81)	33 (1.30)	10 (0.39)		PD04-S5 R1	0.3 (0.66)
U1	32 (1.26)	46.5 (1.83)	33.5 (1.32)	12 (0.47)		PD04-S5 R1	0.3 (0.66)

R1 Port size	Port size					
		A, B	P, T		A, B	P, T
Thread	G1	G 1/4		U1	9/16-18	
Depth of thread	G1	12 (0.47)		U1	12.7	
Counterbore	G1	∅20	∅20.4	U1	∅25	∅20.4
Depth of counterbore	G1	1	1.4	U1	1	1.4
O-Ring [mm]	G1		17.17x1.68 NBR70	U1		17.17x1.68 NBR70

List of standardised types

Design version S5							
Plate - type	SAP		Plate - type	SAP		Plate - type	SAP
PD04-S5-A1/G1AI-ALN	16095000		PD04-S5-A4/G1BI-ALN	23474900		PD04-S5-A2/U1BI-ALN	23484700
PD04-S5-A2/G1AI-ALN	16095100		PD04-S5-A5/G1BI-ALN	23475000		PD04-S5-A3/U1BI-ALN	23484800
PD04-S5-A3/G1AI-ALN	16095200		PD04-S5-A1/G2BI-ALN	16095300		PD04-S5-A4/U1BI-ALN	23484900
PD04-S5-A4/G1AI-ALN	23473900		PD04-S5-A2/G2BI-ALN	23475200		PD04-S5-A5/U1BI-ALN	23485000
PD04-S5-A5/G1AI-ALN	16770200		PD04-S5-A3/G2BI-ALN	23475300		PD04-S5-A1/G1A-AL	30672100
PD04-S5-A1/G2AI-ALN	16666600		PD04-S5-A4/G2BI-ALN	23475400		PD04-S5-A2/G1A-AL	30670800
PD04-S5-A2/G2AI-ALN	16666700		PD04-S5-A5/G2BI-ALN	23475500		PD04-S5-A3/G1A-AL	on request only
PD04-S5-A3/G2AI-ALN	23474300		PD04-S5-A1/U1AI-ALN	23484100		PD04-S5-A4/G1A-AL	28618200
PD04-S5-A4/G2AI-ALN	16666800		PD04-S5-A2/U1AI-ALN	23484200		PD04-S5-A5/G1A-AL	on request only
PD04-S5-A5/G2AI-ALN	23474500		PD04-S5-A3/U1AI-ALN	23484300		PD04-S5-C1/G2AI-AL	32195200
PD04-S5-A1/G1BI-ALN	23474600		PD04-S5-A4/U1AI-ALN	23484400		PD04-S5-E1/G3-AL	32195300
PD04-S5-A2/G1BI-ALN	23474700		PD04-S5-A5/U1AI-ALN	23484500		PD04-S5-R11/G1-ALN	16666900
PD04-S5-A3/G1BI-ALN	23474800		PD04-S5-A1/U1BI-ALN	23484600		PD04-S5-R11/U1-ALN	23476000

Assembly of PD04-S5 plates
One threaded end of an M8 stud is screwed into the aluminium block, the plate is connected to the block with a nut and a washer.
The set consists of two studs, spring washers and nuts. The torque for the nut is 18 Nm (13.3 ft-lbf).

Number of section	Total block length L [mm (in)]	Version A and B		Version C	
		Stud	Set SAP No.	Stud	Set SAP No.
1	40	M8x73	16095900	M8x117	16096100
2	80	M8x113	16096000	M8x157	16667600
3	120	M8x153	16667300	M8x197	16667700
4	160	M8x193	16667400	M8x237	16667800
5	200	M8x233	16667500	M8x277	16667900