

LUBRICATION SYSTEMS



DOUBLE **TWIN** LINE SYSTEM

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The electric **TWIN-PUMP** has been designed for all applications that use Double Line Systems. The two pumping modules, installed in the pump body, guarantee a pressure of 400 bar in redundancy with a total flow of 400 cc/minute.

A particular feature of the TWIN is the movement of the pumping pistons that does not take place by means of a return spring but by a cam that creates the to and fro movement, and therefore all possible anomalies created by the springs are eliminated. The pump can continue working even if one of the two modules were to stop.

The Double Line lubrication systems, generally used on medium and large sized machinery and equipment, operate in harsh or extreme operating conditions for the various points to be lubricated. The systems can be very complex and be longer than 100 metres. Any type of system can be designed and set up in a reliable and efficient manner, with the possibility of expansion.



PLATFORMS



LARGE CRANES



MINING SECTOR

CEMENT FACTORIES



STEEL MILLS



TWIN-PUMP FEATURES AND BENEFITS

TWIN PUMPING UNIT

The pumping units can be quickly replaced since they are positioned on the front side of the pump. Downtime during maintenance is reduced to zero and the risk of contamination is eliminated.

ADVANTAGES

The system is always efficient with the double pumping unit. Constant lubrication can continue even if one module were to stop.

HIGH PERFORMANCE FLOW RATE AND PRESSURE

High pressure values and flow performance can be reached so as to supply any type of circuit.

SINGLE MECHANICAL PISTON MOVEMENT

A huge advantage in using the pump is the absence of return springs in the suction and delivery movement of the metering pistons. All the problems caused by the springs malfunctioning are eliminated.

CUSTOMISABLE

The versatility and simplicity of the structure allows various customisations to be made to the assembly with additional components to provide a completely customised service.

EASY-TO-USE ELECTRIC PUMP

The pump body is set up to receive the two pumping elements, the pressure relief valve, the pressure gauge and the electromagnetic or electropneumatic inverter.

ADVANTAGES

All the pipes and the external components have been eliminated

HIGH PERFORMANCE FLOW RATE AND PRESSURE

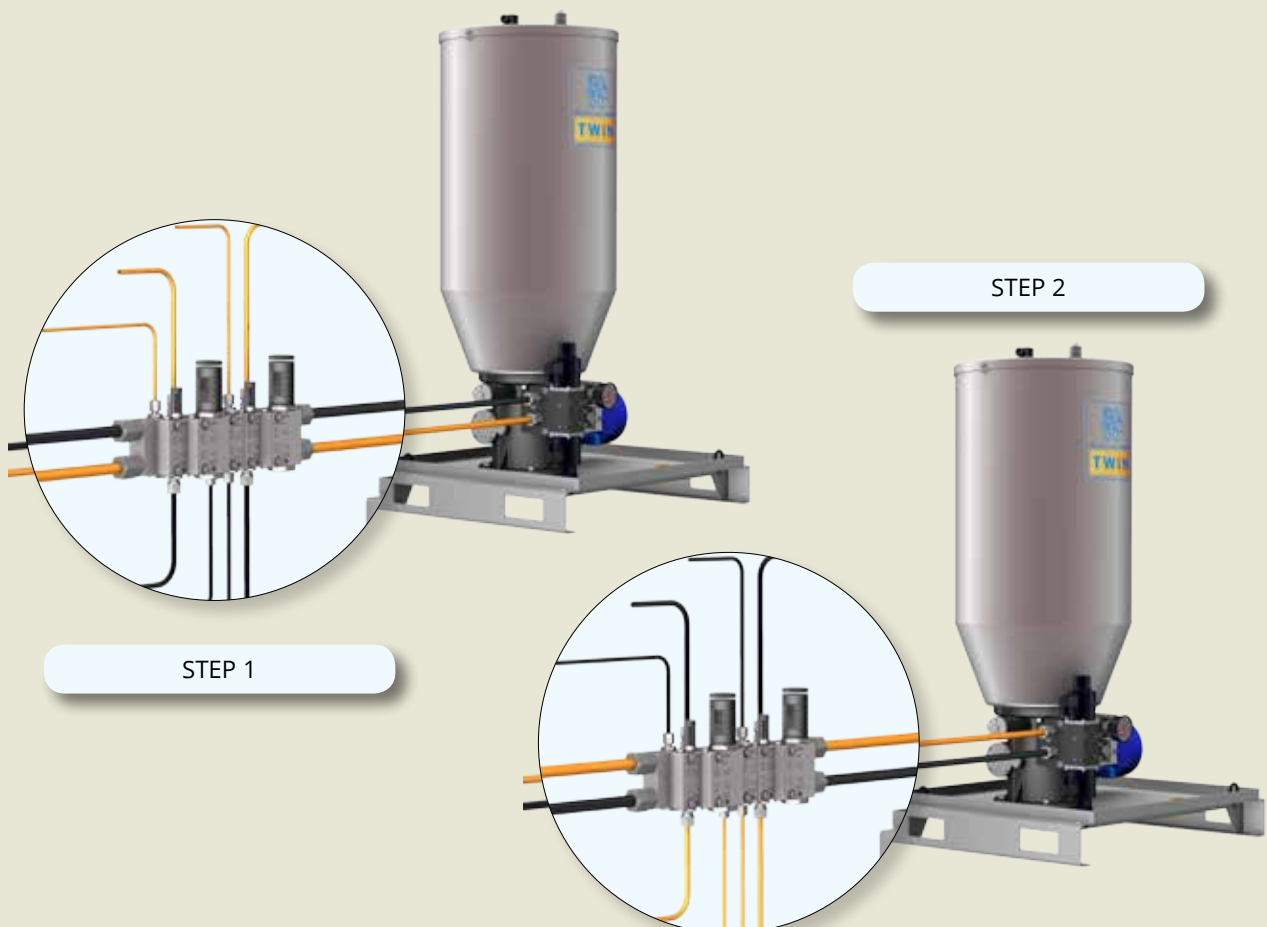
30 kg and 100 kg tanks for grease and oil with minimum and maximum level sensors on request, in AISI 316L

SINGLE MECHANICAL PISTON MOVEMENT

Available with motors having different voltages and in compliance with UL-CSA / NEMA / ATEX standards

CUSTOMISABLE

To guarantee safe and reliable handling, the pumps are supplied assembled to a metallic pallet that is easy grasped



STEP 1

STEP 2

INVERSION SYSTEM



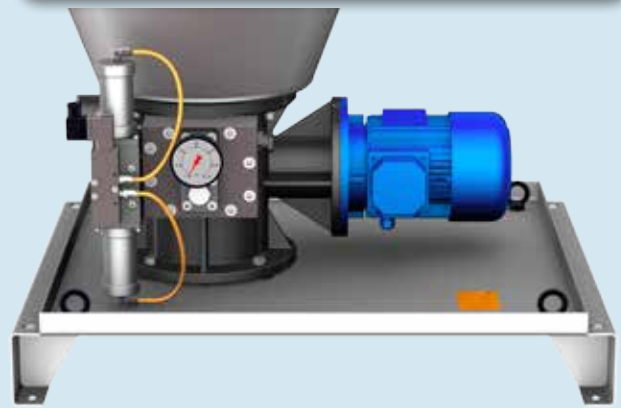
MAIN ELECTRIC TWIN-PUMP UNIT

The core of the electric pump consists of the **TWIN** pumping unit where the two elements that are driven alternately by the central cams are placed, which draw and supply lubricant. The main feature is the absence of return springs which can create problems of return or malfunctions. Inserted in the front body, they can be installed or removed without intervening on the pipes. The alternate movement of the two pistons guarantees a constant and homogeneous flow of the lubricant, the high performance pressure to be reached (400 Bar max) and the possibility of operating even if one of the two pumping elements were to stop. The pressure gauge and the adjustable safety valve are also found in the same body

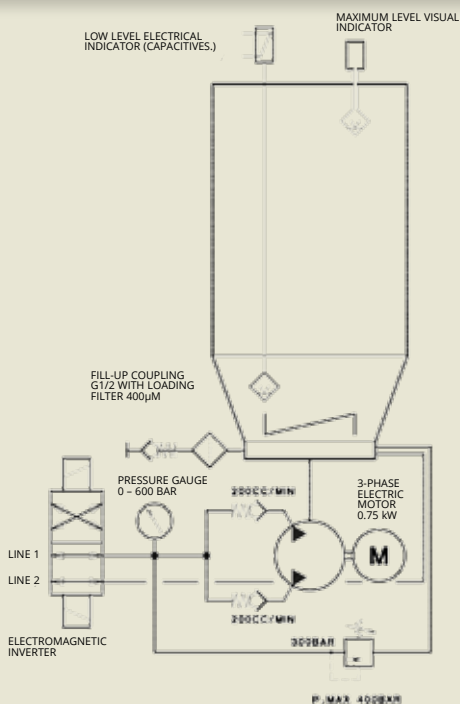
ELECTROMAGNETIC INVERTER (STANDARD)



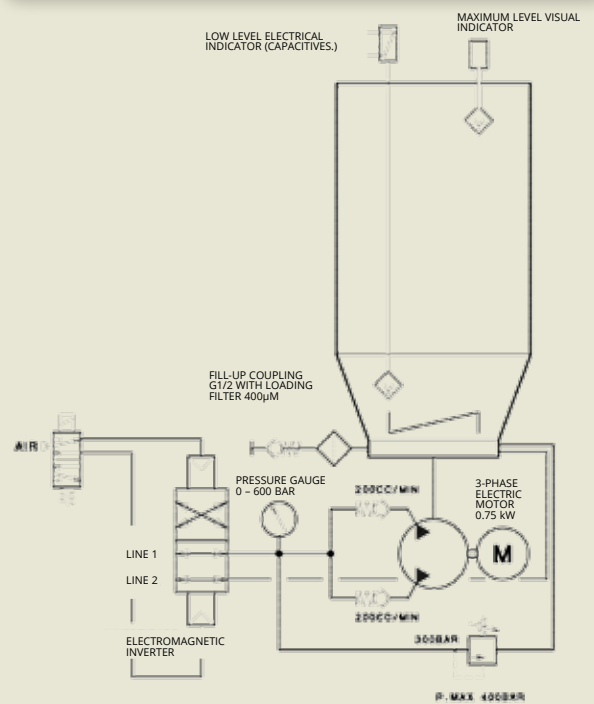
ELECTROPNEUMATIC INVERTER (OPTIONAL)



HYDRAULIC DIAGRAM



HYDRAULIC DIAGRAM



TECHNICAL FEATURES

Operating pressure From 200 to 400 Bar max	Da 200 a 400 Bar Max
Pressure relief valve adjustment Standard set at 300 Bar	Di serie tarata a 300 Bar
Flow rate 400 cc/1'	400 cc/1'
Outlets 2 x 3/8" seats	2 sedi 3/8"
Operating temperature Min -25°C Max +70°C	Min -25°C - Max +70°C
Degree of protection IP 55	IP 55
Working humidity 90% max	90% max
Lubricants	Min. oil 50 cSt at operating temperature NLGI-2 Max grease at working temperature

TECHNICAL FEATURES

Motor	KW. 0,75 IP55 CL. F Service S1
Voltage	220-240 / 380-420V AC 50Hz 254-280 / 440-480V AC 60Hz
Adjustable by-pass valve	From 200 tp 400 bar
Pumping	2 pumping elements
Tank	30 kg 100 kg
Tank inlet	Filter with inlet valve
Inlet filter	400 µ
Minimum Electric Level for grease	PNP contact Capacitive Sensor
Maximum level for grease	Visual
Oil Electric Minimum/Maximum Level	Reed electric
Pressure gauge	0 - 600 Bar in glycerine bath Dn 63
Inversion module	Electromagnetic 24 V DC

TECHNICAL FEATURES

Single-phase voltage motor	115V AC 60Hz
	230V AC 50Hz
	330-575V AC 60Hz
Three-phase voltage motor	500V AC 50Hz
	380V AC 60Hz
Motor standards	UL-CSA - NEMA
Electromagnetic Inversion Module	115 V AC
	230 V AC
	24 V AC
Electropneumatic Inversion Module	115 V AC
	230 V AC
	24 V DC
	24 V DC ATEX
	30 kg tank continuous reading
Ultrasound grease minimum/maximum level	100 kg tank continuous reading
	PNP contact Capacitive Sensor
Maximum grease level	tank 30 kg
Heating band	tank 100 kg
	tank 100 kg

COMPOSITION OF ORDERING CODES

5 5 . G . 0 3 . S U . 1 . A . 2 . A

LUBRICANT

GREASE	G
OIL	O

TANK

30 Kg	03
100 Kg	10

MOTOR

THREE-PHASE	S
SINGLE-PHASE 115V	B
SINGLE-PHASE 230V	C
THREE-PHASE 330-575/60 Hz	D
THREE-PHASE 480/60 Hz	E
THREE-PHASE 380/60 Hz	F

REGULATIONS

STANDARD	S
UL-CSA	U
NEMA	N

ELECTROMAGNETIC INVERSION MODULE

24 V DC	1
115 V AC	2
230 V AC	3

ELECTROPNEUMATIC INVERSION MODULE

24 V DC	4
24 V AC	5
115 V AC	6
230 V AC	7
24 V DC ATEX	8

MINIMUM GREASE LEVEL

CAPACITIVE	A
ULTRASOUND (min - max)*	B

MAXIMUM GREASE LEVEL

VISUAL	1
CAPACITIVE	2

HEATING BAND

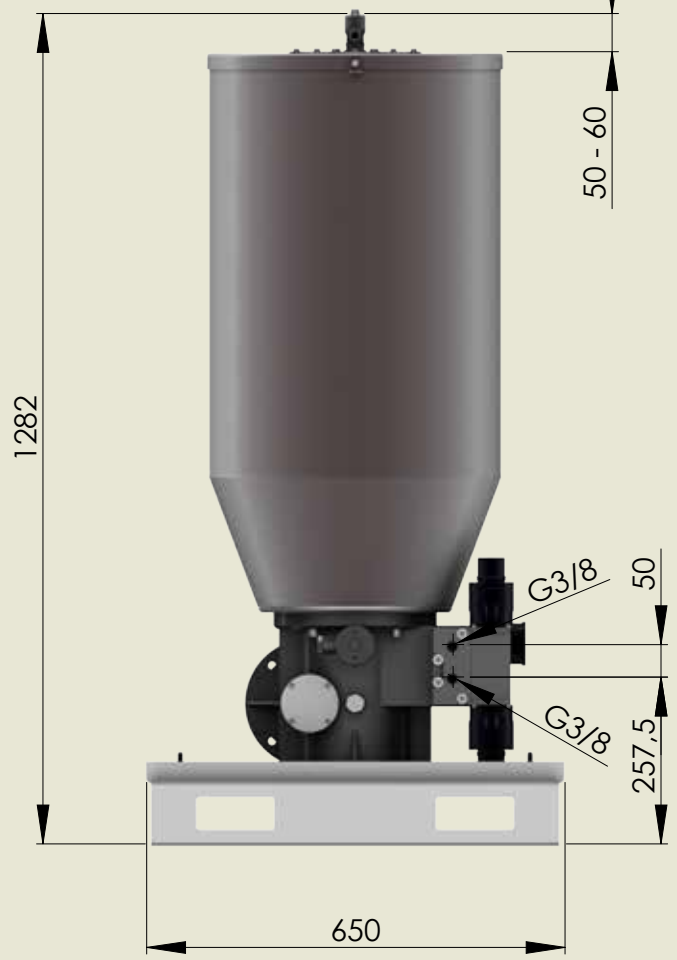
NO	A
SI	B

The appearance of the products can be subject to change without prior notice

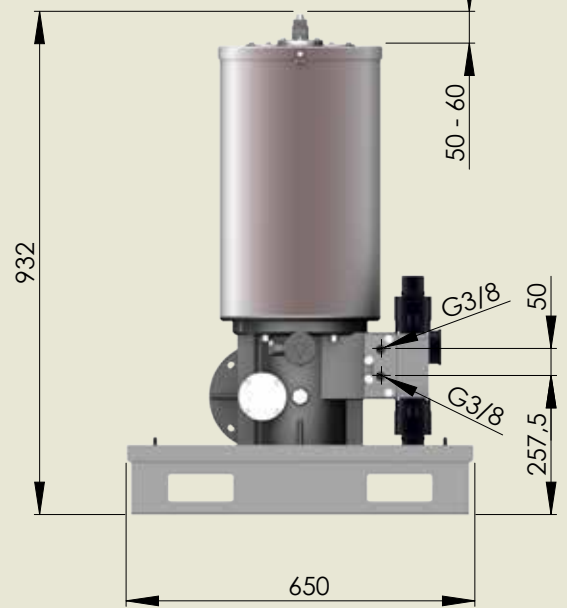
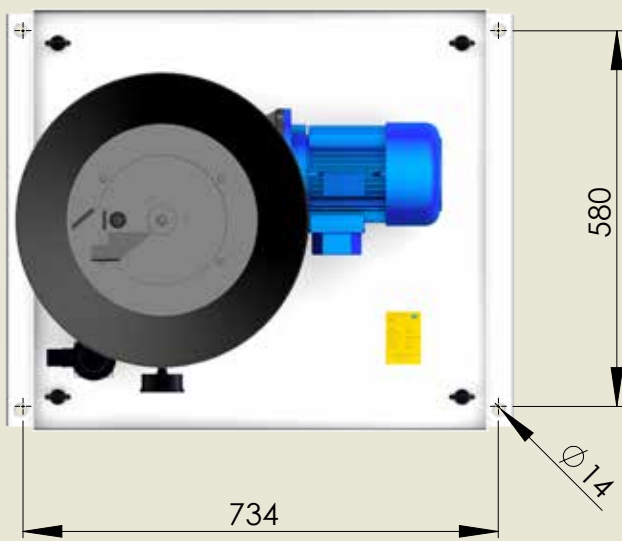
*THE ULTRASOUND MODEL CONTROLS THE MINIMUM AND MAXIMUM LEVEL. IF SELECTED, MARK AN X IN THE NEXT OPTION

OVERALL DIMENSIONS

100 Kg TANK



30 Kg TANK

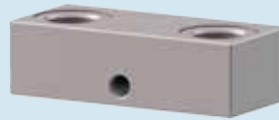


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MODULAR DOUBLE LINE DF-DR SERIES METERING DEVICE

The modular metering device blocks for the Double Line system consist of different elements which, when adequately assembled, allow the lubricant to be metered in medium and large sized extensions.

INITIAL ELEMENT



CLOSING PLATE



FIXED METERING VALVE



ADJUSTABLE METERING VALVE DR 3



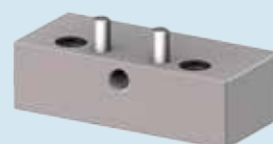
ADJUSTABLE METERING VALVE DR 5



BASE FOR VALVES



FINAL ELEMENT



METERING VALVE WITH CONTROL

They are available with inlet and outlet threads
BSP / NPTF

All bases and valves are nickel plated as standard and on the request can be supplied in AISI 316L

In view of additional elements being added or unused points being removed, closing plates are available to be installed on the base

The Modular Metering Devices are laser marked and all relevant information is identified

The valves with R adjustable flow are equipped with adjustment turrets adjustment with a transparent cap (made of aluminium on request). The valves with F fixed flow have a flow limiting cap

KEY BENEFITS OF THE MODULAR SYSTEM

VERSATILITY	In the design of the systems
FLEXIBILITY	In the increase or decrease of the assembled modular elements
CLOSING PLATE	To set up future greasing points or remove them
TIME SAVING	The metering valves can be replaced without intervening on the block and the fittings of the main and secondary pipes
REDUCED MAINTENANCE COSTS	The total modularity of the system allows for rapid intervention at a low cost with no downtime
REDUCED STOCK COSTS	Only the metering valves

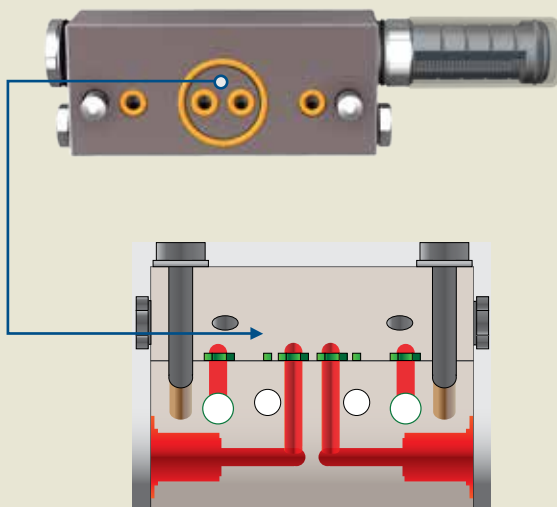
TECHNICAL FEATURES

OPERATING TEMPERATURE	FROM -30 °C ÷ TO +80 °C
LUBRICANTS	MIN 100 cSt 40°C MAX NLGI 2 AT THE OPERATING TEMPERATURE
FREQUENCY	100 CYCLES/MINUTE.
MAX PRESSURE	400 Bar
MAIN LINE	3/8" BSP - NPTF SEAT
OUTLETS LINE	1/4" BSP - NPTF SEAT
ADJUSTABLE MODEL	DR3 0.15-3.0 CC DR5 0,5 - 24.0 CC
FIXED MODEL	DF1 1.0 CC -DF3 3.0 CC

The valves are set up on two free outlets as per standard. Proceed as follows to use them as a single outlet: Unscrew the two fastening screws that secure the metering device to the base

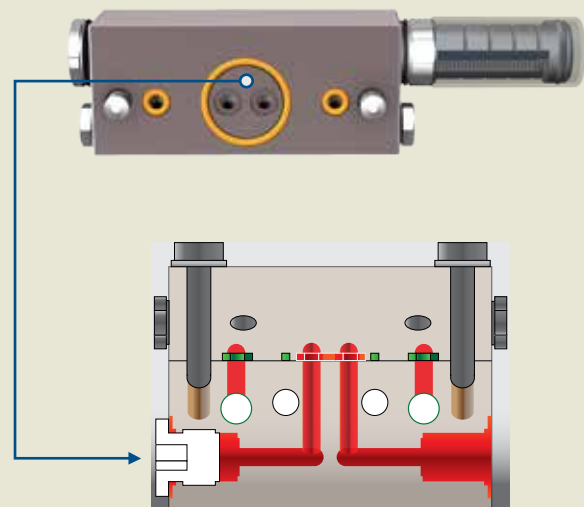
Remove the two O-rings inside and reassemble the metering device on the base. **IMPORTANT:** Order the cap to close the unused outlet separately

USE AS 2 OUTLETS



REMOVE THE 2 INDICATED O-RINGS

USE AS 1 OUTLET



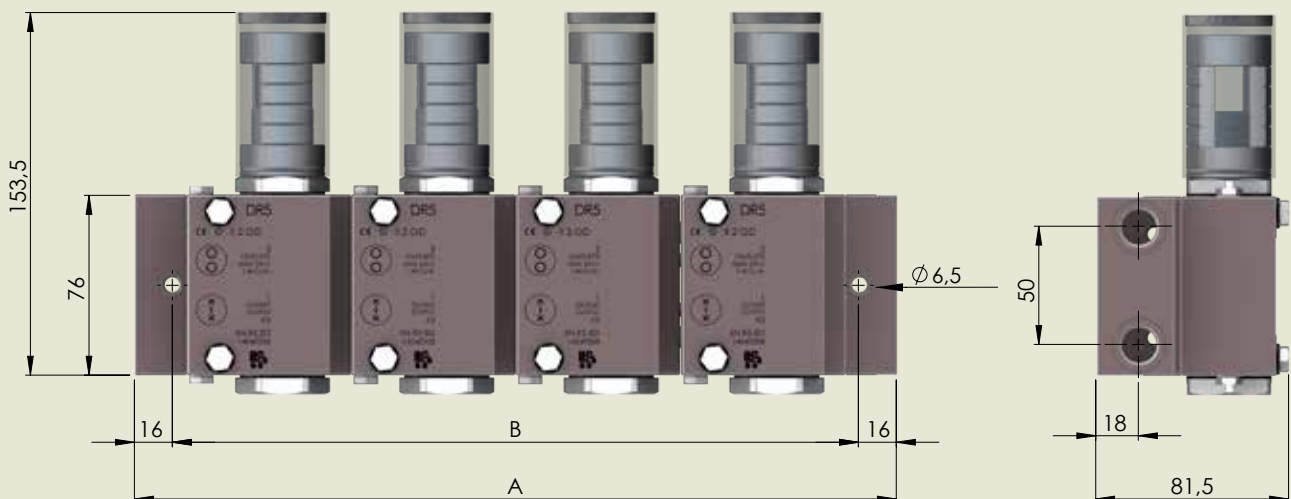
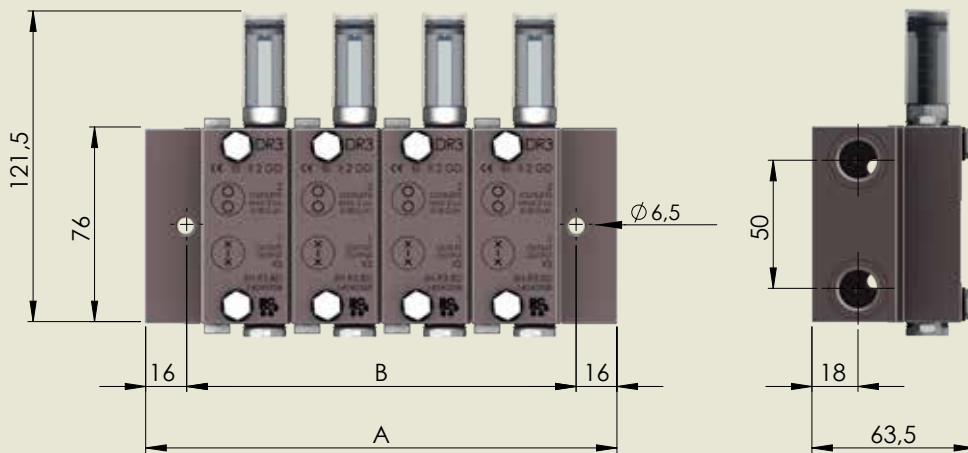
CLOSE THE UNUSED OUTLET WITH THE RELEVANT CAP CODE E3363-14

ASSEMBLED ADJUSTABLE FLOW METERING DEVICE BLOCKS DR-3 / DR-5 SERIES

STEEL		AISI 316L STEEL		CC/CYCLE	OUTLETS	A	B
MODEL	PART NUMBER	MODEL	PART NUMBER				
DR3 BSP	5N.DR3.01.BSP	DR3X BSP	5X.DR3.01.BSP	0,15 - 3,0	2	78.5	46.5
	5N.DR3.02.BSP		5X.DR3.02.BSP		4	113.2	81.2
	5N.DR3.03.BSP		5X.DR3.03.BSP		6	147.9	115.9
	5N.DR3.04.BSP		5X.DR3.04.BSP		8	182.6	150.6
DR5 BSP	5N.DR5.01.BSP	DR5X BSP	5X.DR5.01.BSP	0,5 - 24,0	2	113	81.2
	5N.DR5.02.BSP		5X.DR5.02.BSP		4	182.6	150.6
	5N.DR5.03.BSP		5X.DR5.03.BSP		6	252	220
	5N.DR5.04.BSP		5X.DR5.04.BSP		8	321.4	289.4
DR3 NPTF	5N.DR3.01.NPTF	DR3X NPTF	5X.DR3.01.NPTF	0,15 - 3,0	2	78.5	46.5
	5N.DR3.02.NPTF		5X.DR3.02.NPTF		4	113.2	81.2
	5N.DR3.03.NPTF		5X.DR3.03.NPTF		6	147.9	115.9
	5N.DR3.04.NPTF		5X.DR3.04.NPTF		8	182.6	150.6
DR5 NPTF	5N.DR5.01.NPTF	DR5X NPTF	5X.DR5.01.NPTF	0,5 - 24,0	2	113	81.2
	5N.DR5.02.NPTF		5X.DR5.02.NPTF		4	182.6	150.6
	5N.DR5.03.NPTF		5X.DR5.03.NPTF		6	252	220
	5N.DR5.04.NPTF		5X.DR5.04.NPTF		8	321.4	289.4



OVERALL DIMENSIONS



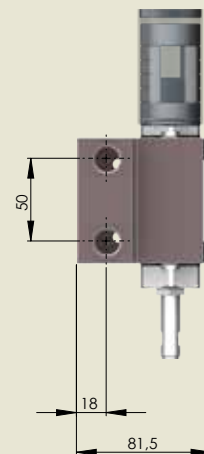
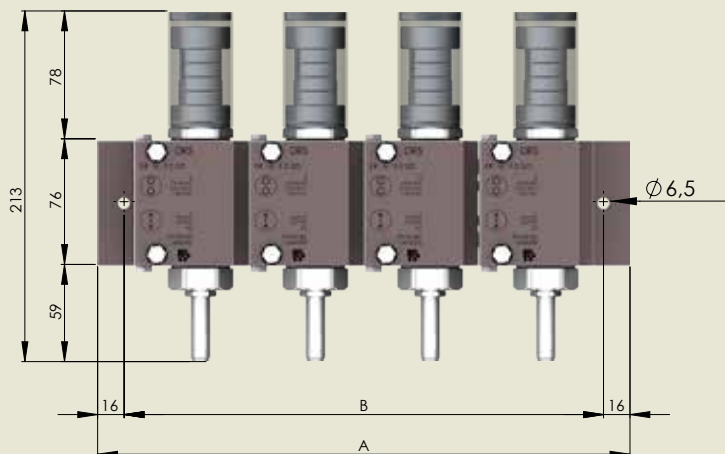
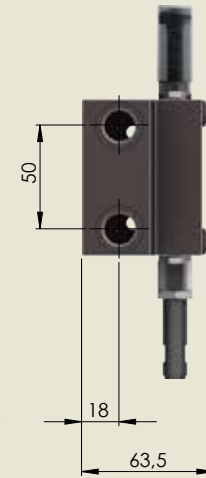
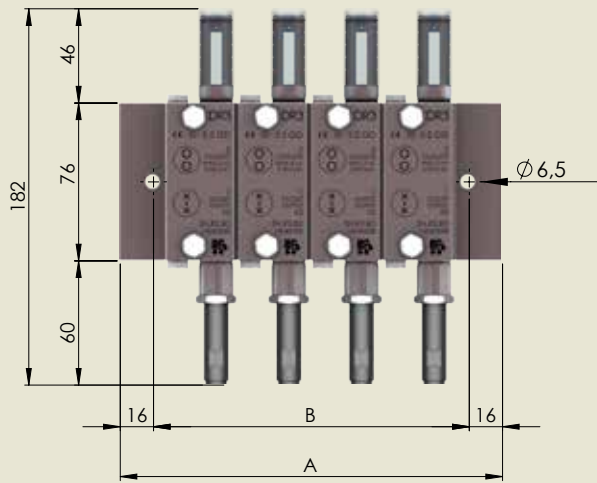
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ADJUSTABLE FLOW METERING DEVICE BLOCKS WITH ASSEMBLED CYCLE CONTROL DR-3 / DR-5 SERIES

STEEL		AISI 316L STEEL		CC/CYCLE	OULETS	A	B
MODEL	PART NUMBER	MODEL	PART NUMBER				
DR3 BSP	5N.DR3.01.BSP.ICS	DR3X BSP	5X.DR3.01.BSP.ICS	0,15 - 3,0	2	78.5	46.5
	5N.DR3.02.BSP.ICS		5X.DR3.02.BSP.ICS		4	113.2	81.2
	5N.DR3.03.BSP.ICS		5X.DR3.03.BSP.ICS		6	147.9	115.9
	5N.DR3.04.BSP.ICS		5X.DR3.04.BSP.ICS		8	182.6	150.6
DR5 BSP	5N.DR5.01.BSP.ICS	DR5X BSP	5X.DR5.01.BSP.ICS	0,5 - 24,0	2	113	81.2
	5N.DR5.02.BSP.ICS		5X.DR5.02.BSP.ICS		4	182.6	150.6
	5N.DR5.03.BSP.ICS		5X.DR5.03.BSP.ICS		6	252	220
	5N.DR5.04.BSP.ICS		5X.DR5.04.BSP.ICS		8	321.4	289.4
DR3 NPTF	5N.DR3.01.NPTF.ICS	DR3X NPTF	5X.DR3.01.NPTF.ICS	0,15 - 3,0	2	78.5	46.5
	5N.DR3.02.NPTF.ICS		5X.DR3.02.NPTF.ICS		4	113.2	81.2
	5N.DR3.03.NPTF.ICS		5X.DR3.03.NPTF.ICS		6	147.9	115.9
	5N.DR3.04.NPTF.ICS		5X.DR3.04.NPTF.ICS		8	182.6	150.6
DR5 NPTF	5N.DR5.01.NPTF.ICS	DR5X NPTF	5X.DR5.01.NPTF.ICS	0,5 - 24,0	2	113	81.2
	5N.DR5.02.NPTF.ICS		5X.DR5.02.NPTF.ICS		4	182.6	150.6
	5N.DR5.03.NPTF.ICS		5X.DR5.03.NPTF.ICS		6	252	220
	5N.DR5.04.NPTF.ICS		5X.DR5.04.NPTF.ICS		8	321.4	289.4



OVERALL DIMENSIONS

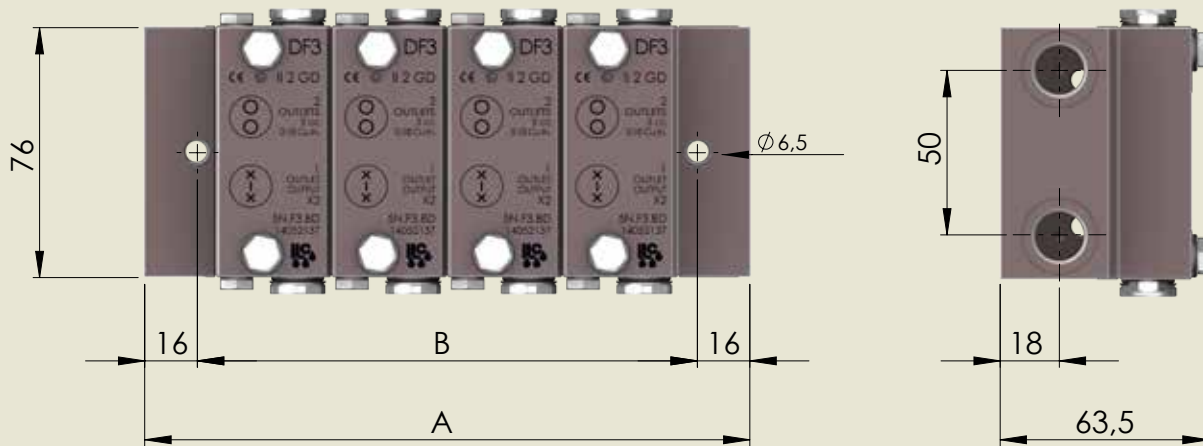


ASSEMBLED FIXED FLOW METERING DEVICE BLOCKS DF-1 / DF-3 SERIES

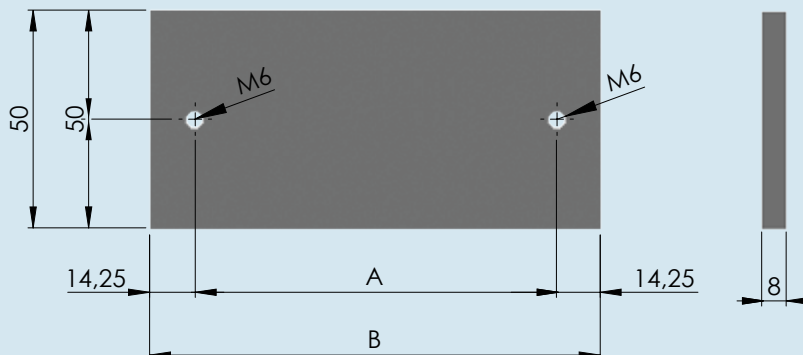
STEEL		AISI 316L STEEL		CC/CYCLE	OULETS	A	B
MODEL	PART NUMBER	MODEL	PART NUMBER				
DF1 BSP	5N.DF1.01.BSP	DF1X BSP	5X.DF1.01.BSP	1	2	78.5	46.5
	5N.DF1.02.BSP		5X.DF1.02.BSP		4	113.2	81.2
	5N.DF1.03.BSP		5X.DF1.03.BSP		6	147.9	115.9
	5N.DF1.04.BSP		5X.DF1.04.BSP		8	182.6	150.6
DF3 BSP	5N.DF3.01.BSP	DF3X BSP	5X.DF3.01.BSP	3	2	78.5	46.5
	5N.DF3.02.BSP		5X.DF3.02.BSP		4	113.2	81.2
	5N.DF3.03.BSP		5X.DF3.03.BSP		6	147.9	115.9
	5N.DF3.04.BSP		5X.DF3.04.BSP		8	182.6	150.6
DF1 NPTF	5N.DF1.01.NPTF	DF1X NPTF	5X.DF1.01.NPTF	1	2	78.5	46.5
	5N.DF1.02.NPTF		5X.DF1.02.NPTF		4	113.2	81.2
	5N.DF1.03.NPTF		5X.DF1.03.NPTF		6	147.9	115.9
	5N.DF1.04.NPTF		5X.DF1.04.NPTF		8	182.6	150.6
DF3 NPTF	5N.DF3.01.NPTF	DF3X NPTF	5X.DF3.01.NPTF	3	2	78.5	46.5
	5N.DF3.02.NPTF		5X.DF3.02.NPTF		4	113.2	81.2
	5N.DF3.03.NPTF		5X.DF3.03.NPTF		6	147.9	115.9
	5N.DF3.04.NPTF		5X.DF3.04.NPTF		8	182.6	150.6



OVERALL DIMENSIONS



WELD PLATES FOR METERING DEVICE SERIES DF1-3 AND DR3



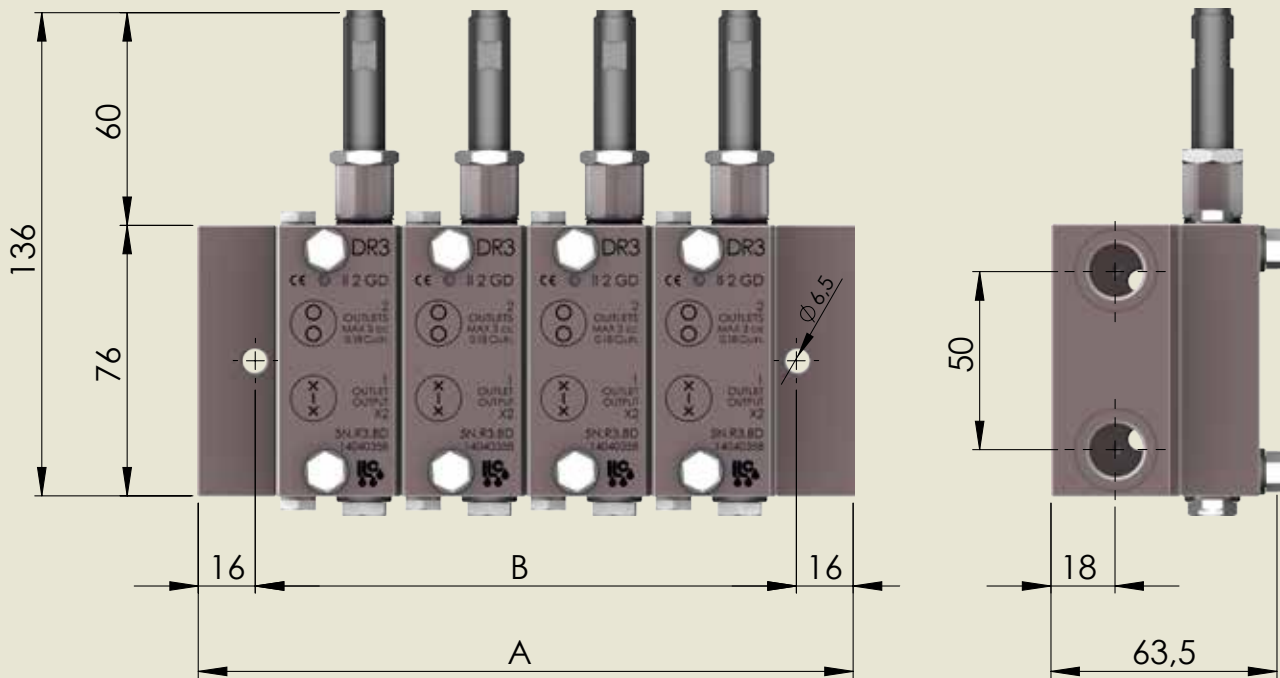
STEEL	ACCIAO AISI 316L	N. METERING DEVICE	A	B
PART NUMBER	PART NUMBER			
CN.FP3.01	CX.FP3.01	1	46.5mm	75mm
CN.FP3.02	CX.FP3.02	2	81.2mm	109.7mm
CN.FP3.03	CX.FP3.03	3	115.9mm	144.4mm
CN.FP3.04	CX.FP3.04	4	150.6mm	179.1mm

FIXED FLOW METERING DEVICE BLOCKS WITH ASSEMBLED CYCLE CONTROL DF-1 / DF-3 SERIES

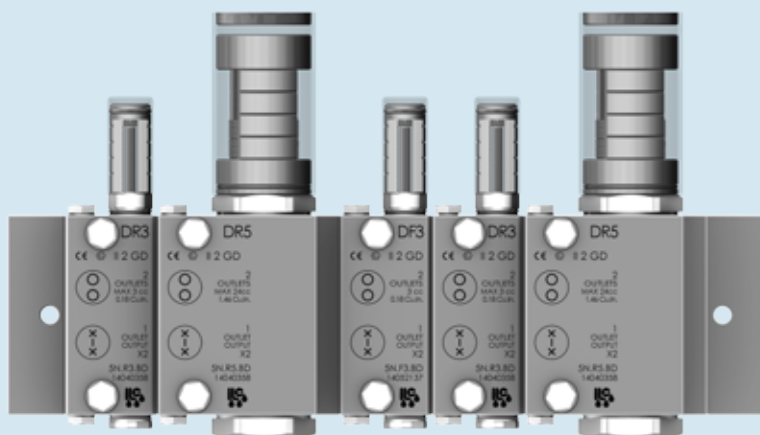
STEEL		AISI 316L STEEL		CC/CYCLE	OUTLETS	A	B
MODEL	PART NUMBER	MODEL	PART NUMBER				
DF1 BSP	5N.DF1.01.BSP.ICS	DF1X BSP ICS	5X.DF1.01.BSP.ICS	1	2	78.5	46.5
	5N.DF1.02.BSP.ICS		5X.DF1.02.BSP.ICS		4	113.2	81.2
	5N.DF1.03.BSP.ICS		5X.DF1.03.BSP.ICS		6	147.9	115.9
	5N.DF1.04.BSP.ICS		5X.DF1.04.BSP.ICS		8	182.6	150.6
DF3 BSP	5N.DF3.01.BSP.ICS	DF3X BSP CSI	5X.DF3.01.BSP.ICS	3	2	78.5	46.5
	5N.DF3.02.BSP.ICS		5X.DF3.02.BSP.ICS		4	113.2	81.2
	5N.DF3.03.BSP.ICS		5X.DF3.03.BSP.ICS		6	147.9	115.9
	5N.DF3.04.BSP.ICS		5X.DF3.04.BSP.ICS		8	182.6	150.6
DF1 NPTF	5N.DF1.01.NPTF.ICS	DF1X.ICS NPTF	5X.DF1.01.NPTF.ICS	1	2	78.5	46.5
	5N.DF1.02.NPTF.ICS		5X.DF1.02.NPTF.ICS		4	113.2	81.2
	5N.DF1.03.NPTF.ICS		5X.DF1.03.NPTF.ICS		6	147.9	115.9
	5N.DF1.04.NPTF.ICS		5X.DF1.04.NPTF.ICS		8	182.6	150.6
DF3 NPTF	5N.DF3.01.NPTF.ICS	DF3X.ICS NPTF	5X.DF3.01.NPTF.ICS	3	2	78.5	46.5
	5N.DF3.02.NPTF.ICS		5X.DF3.02.NPTF.ICS		4	113.2	81.2
	5N.DF3.03.NPTF.ICS		5X.DF3.03.NPTF.ICS		6	147.9	115.9
	5N.DF3.04.NPTF.ICS		5X.DF3.04.NPTF.ICS		8	182.6	150.6



OVERALL DIMENSIONS

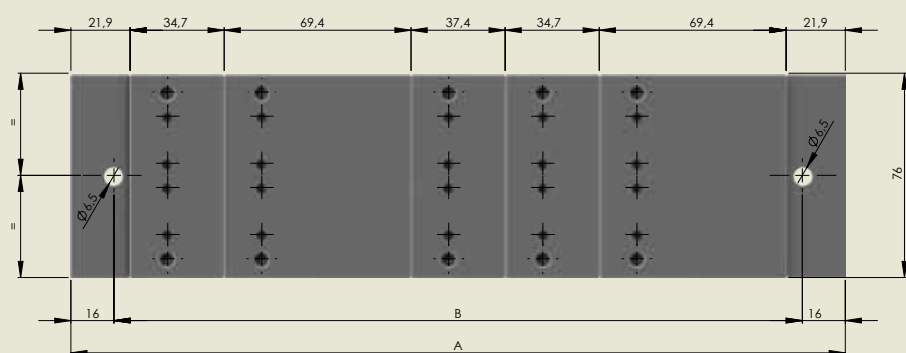


BLOCKS ASSEMBLED WITH DIFFERENT MODELS



Various configurations can be obtained by assembling the two different intermediate sub-bases.

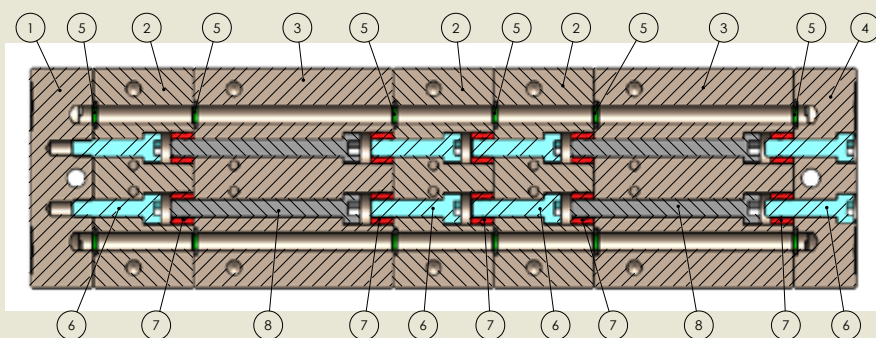
The diagram at the side indicates a typical example of a configuration with different sizes. Dimensions A and B can be obtained by having the intermediate dimensions of each base



A	B
286,7 mm	254,7 mm
BASE DR/DF-3	BASE DR-5
34,7mm	69,4mm

DR-3/DF-3 MODEL		DR-5 MODEL	DIMENSIONS	
A	B	No. of METERING DEVICES	A	B
78,5mm	46,5mm	1	113,2mm	81,2mm
113,2mm	81,2mm	2	182,6mm	150,6mm
147,9mm	115,9mm	3	252,0mm	220,0mm
182,6mm	150,6mm	4	321,4mm	289,4mm

ASSEMBLING THE SUB-BASES



POS.	PART NUMBER	DESCRIPTION	POS.	PART NUMBER	DESCRIPTION
1	5N-BB-A-BSP	BASE INITIAL ELEMENT 3/8" BSP	5	A92.127195	O-RING 106 VITON
2	5N-BB-B-BSP	METERING DEVICE BASE ELEMENT DR-3 1/4" BSP	6	UNI5931-M6X25	SOCKET HEAD CAP SCREW M6X25 UNI 5931
3	5N-G-BB-B-BSP	METERING DEVICE BASE ELEMENT DR-5 1/4" BSP	7	A51087083	BLOCKING THREADED BUSH M12X1
4	5N-BB-C-BSP	BASE END ELEMENT 3/8" BSP	8	UNI5931-M6X60	SOCKET HEAD CAP SCREW M6X60 UNI 5931

INDIVIDUAL ELEMENTS DF-1 / DF-3 / DR-5 SERIES - METERING DEVICES ELEMENTS WITH CONTROL

ORDERING CODE OF INDIVIDUAL ELEMENTS

MATERIAL	SERIES	VERSION	VALVOLA DOSATRICE	CC/CYCLE	METERING DEVICE BASE	INITIAL BASE	END BASE	CLOSING PLATE
STEEL	DF1	FIXED	5N.F1.BD	1	5N.BB.B.BSP 5N.BB.B.NPTF	5N.BB.A.BSP 5N.BB.A.NPTF	5N.BB.C.BSP 5N.BB.C.NPTF	5N.PC.SB
	DF3	FIXED	5N.F3.BD	3				
	DR3	ADJUSTABLE	5N.R3.BD	0.15-3	5N.G.BB.B.BSP 5N.G.BB.B.NPTF			
	DR5	ADJUSTABLE	5N.R5.BD	0.5-24				
AISI 316L	DF1X	FIXED	5X.F1.BD	1	5X.BB.B.BSP 5X.BB.B.NPTF	5X.BB.A.BSP 5X.BB.A.NPTF	5X.BB.C.BSP 5X.BB.C.NPTF	5X.PC.SB
	DF3X	FIXED	5X.F3.BD	3				
	DR3X	ADJUSTABLE	5X.R3.BD	0.15-3	5X.G.BB.B.BSP 5X.G.BB.B.NPTF			
	DR5X	ADJUSTABLE	5X.R5.BD	0.5-24				

The fixed or adjustable metering devices can be fitted with cycle control by installing an inductive sensor. This solution is used at the most important points where the actual movement of the metering piston must be monitored. The element can be ordered directly complete with the control or this can be inserted at a later stage by removing the closing cap

MATERIAL	SERIES	VERSION	METERING VALVE	CC/CYCLE
STEEL	DF1	FIXED	5N.F1.BD.ICS	1
	DF3	FIXED	5N.F3.BD.ICS	3
	DR3	ADJUSTABLE	5N.R3.BD.ICS	0.15 - 3
	DR5	ADJUSTABLE	5N.R5.BD.ICS	0,5 - 24.0
AISI 316L	DF1X	FIXED	5X.F1.BD.ICS	1
	DF3X	FIXED	5X.F3.BD.ICS	3
	DR3X	ADJUSTABLE	5X.R3.BD.ICS	0.15 - 3.0
	DR5X	ADJUSTABLE	5X.R5.BD.ICS	0,5 - 24.0



CONTROL ELEMENT DF/DR 1-3 CODE	5N.ICS.03
CONTROL ELEMENT DR-5 CODE	5N.ICS.05

FASTENING PARTS

All metering elements and the various sub-bases are supplied complete with fastening screws - washers and threaded bushes for assembly

SPARE PART ORDERING CODES

Regulator transparent cap	DR-3 SERIES	A83.120870	DR5 SERIES	A70.093623	O-Ring kit for bases	5N.O.RING.B
Regulator aluminium cap	DR-3 SERIES	A83.120870.A	DR5 SERIES	A70.093623.A	O-Ring kit for metering devices	5N.O.RING.D



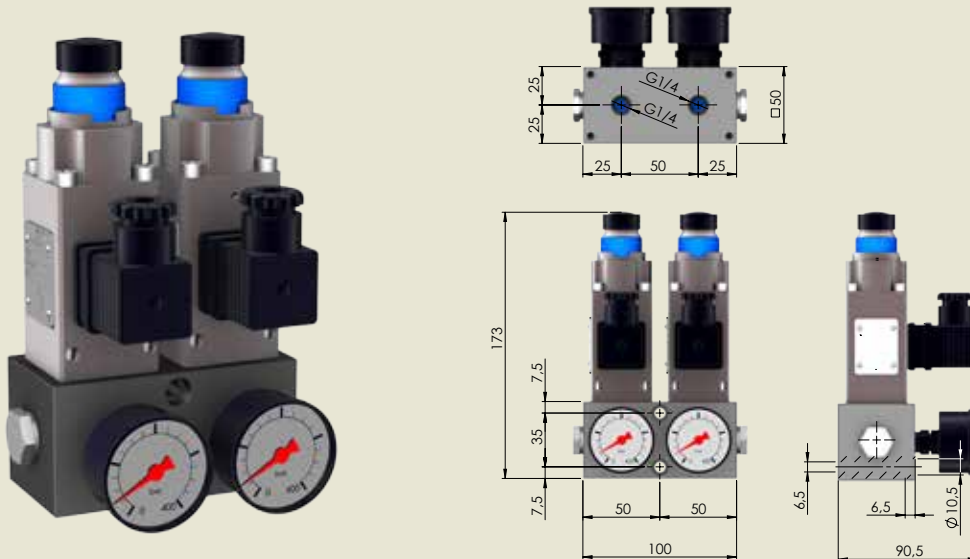
END OF LINE PRESSURE SWITCH

The end of line pressure switch is usually installed at the end of the main line to control system operation correctly. It allows a message to be sent once lubrication is completed.

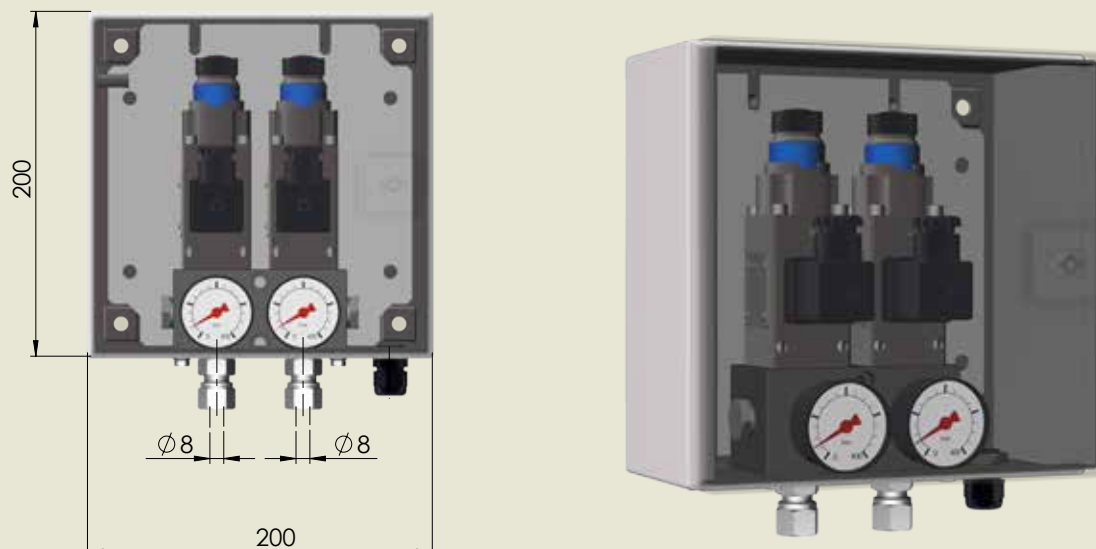
TECHNICAL FEATURES

BODY	ANODISED ALUMINIUM
WORKING RANGE	40 - 400 BAR \pm 2%
SEALS	NBR + TEFLON
PROTECTION RATING	IP-65 WITH CONNECTOR IN ACCORDANCE WITH UNI EN 175301-803 (DIN43650)
MAX FLUID TEMPERATURE	100°C
ELECTRICAL FEATURES	5 A / 14 VDC /125 VAC /250 VAC 4 A / 30 VDC
FIXED HYSTERESIS	\sim 10% OF THE SET VALUE
MAX SAFETY PRESSURE	900 BAR
MECHANICAL LIFE	10 ⁶ OPERATIONS
ELECTRICAL CONTACTS	SPDT SILVER

OVERALL DIMENSIONS - EXPOSED ORDERING CODES 5N.PFL.G



OVERALL DIMENSIONS - ORDERING CODES WITH BOX 5N.PFL.C



TWIN-CU ELECTRIC EQUIPMENT

TWIN-CU is a latest generation electrical device suitable to control double line lubrication systems in which you want to monitor and control all the functions. All the various functions and program choices are made via the front panel controls of the PLC on the outside of the closing door

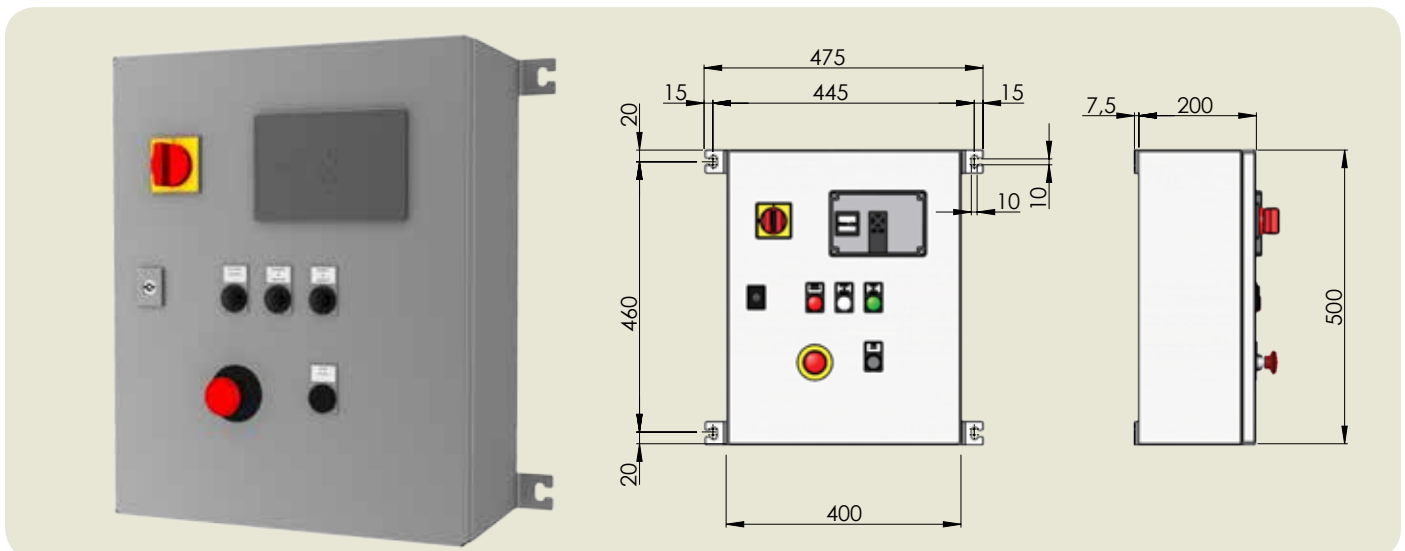
The electrical equipment operates by setting the machine pause or pulse time and a working time. The cycle consists of:
pump start-up

signal reception from the pressure switch line 1 or line 2 for inversion

If this signal is not received, an alarm is generated

Start-up is also possible from an external pulse

TECHNICAL FEATURES		PART NUMBER	POWER SUPPLY VOLTAGE	INVERTER POWER
Power supply voltage	110V~ - 230V~ - 400V~ - 460V~	5.CU.115.24	115 V	24 V DC
Absorption	2 W (In Stop) - 10 W (In Start)	5.CU.230.24	230 V	24 V DC
Operating temperature	- 10 °C ÷ + 70° C	5.CU.480.24	480 V	24 V DC
Storage temperature	- 20°C ÷ + 80 °C	5.CU.115.115	115 V	115 V
Operating humidity	90% max	5.CU.230.230	230 V	230 V
Frequency	50/60 Hz			



- SINGLE-PHASE POWER
- THREE-PHASE POWER
- EMERGENCY BUTTON
- MAIN SWITCH
- DOOR BLOCKING SWITCH
- ADDITIONAL TERMINAL BOARD
- DOUBLE LINE COMMAND AND CONTROL SYSTEM WITH HYDRAULIC INVERTER
- POWER CONTACTS FOR INVERSION CONTROL (ELECTROMAGNETIC AND ELECTROPNEUMATIC)
- PAINTED STEEL BOX IP55
- MINIMUM CAPACITIVE - REED LEVEL CONTROL
- MAXIMUM CAPACITIVE - REED LEVEL CONTROL
- ULTRASOUND CONTINUOUS LEVEL CONTROL
- THERMAL PROTECTION CONTROL
- REMOTE ALARM FREE CONTACT
- LOCAL/REMOTE SELECTOR WITH START AND RESET
- PUMP-ON REMOTE CONTACT
- POSSIBILITY OF SEPARATE POWER TO THE INPUT AND OUTPUT CIRCUITS
- POSSIBILITY OF SEPARATE INVERTER POWER

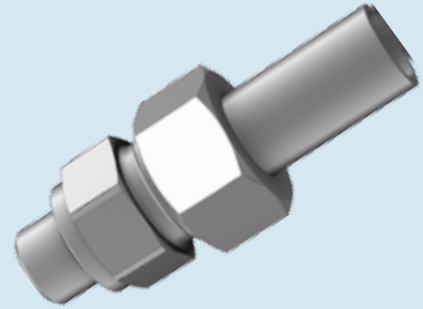
ORDERING CODE 5N.TWIN.CU

PIPE FITTINGS DIN 2353

RIGHT TO END WITH FLAT SEAL GAS CYLINDER

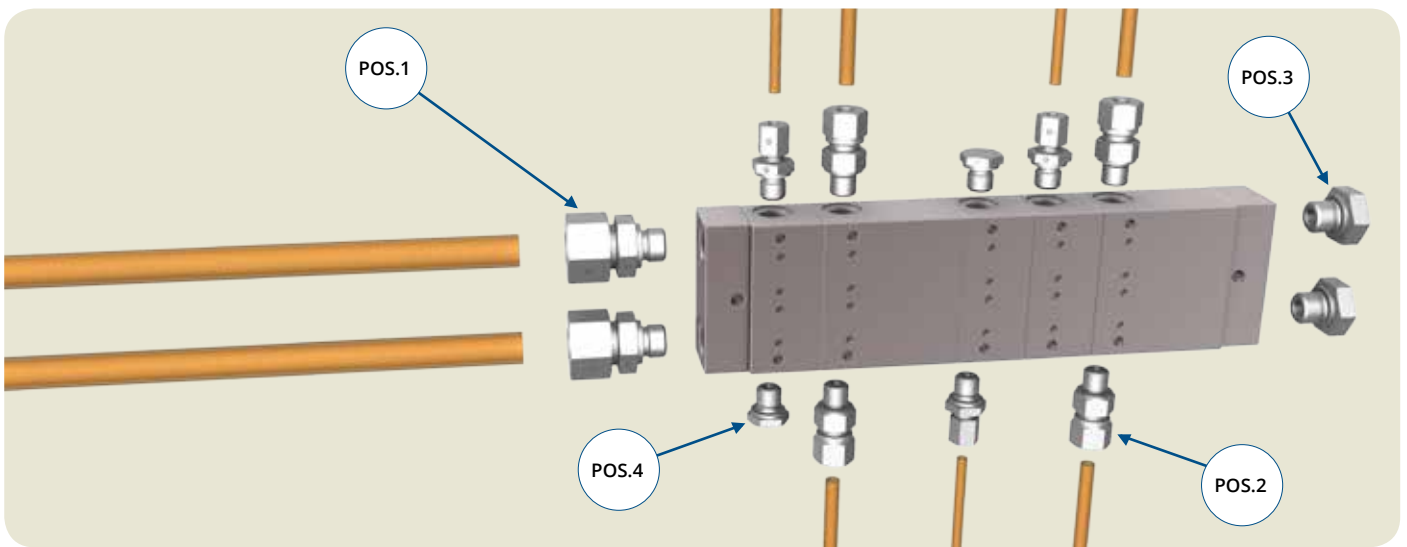
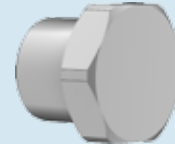
MAIN LINE FITTINGS

THREAD	PIPE Ø E.	CODE STEEL	CODE AISI-316.L	
1/4	6mm	TW100524	TW110524	POS. 1
1/4	8mm	TW100505	TW110505	
1/4	10mm	TW100506	TW110506	
SECONDARY LINES FITTINGS				
3/8	12mm	TW100517	TW110517	POS. 2
3/8	16mm	TW100537	TW110537	



HEXAGON SOCKET CAP WITH SEAL FLAT GAS CYLINDER

THREAD	CODE STEEL	CODE AISI-316.L	
1/4	TW107602	TW117602	POS. 3
3/8	TW107603	TW117603	POS. 4



RIGID SYSTEM PIPES

LINE	DIMENSIONS ØE-ØI	PACKAGE	STEEL	AISI 316L
SECONDARY	Ø6x4	BARS 5 ÷ 7 M	30.316.6	30.316.6.AISI
SECONDARY	Ø8x6	BARS 5 ÷ 7 M	30.316.8	30.316.8.AISI
SECONDARY	Ø10x8	BARS 5 ÷ 7 M	30.316.10	30.316.10.AISI
MAIN	Ø12x9	BARS 5 ÷ 7 M	30.316.12	30.316.12.AISI
MAIN	Ø16x12	BARS 5 ÷ 7 M	30.316.16	30.316.16.AISI
MAIN	Ø20x16	BARS 5 ÷ 7 M	30.316.20	30.316.20.AISI
MAIN	Ø25x20	BARS 5 ÷ 7 M	30.316.25	30.316.25.AISI
MAIN	Ø30x24	BARS 5 ÷ 7 M	30.316.30	30.316.30.AISI

STRAIGHT COUPLING FITTING

CODE STEEL	PIPE Ø E.	CODE AISI-316.L
TW103504	6 mm	TW113504
TW103505	8 mm	TW113505
TW103506	10 mm	TW113506
TW103507	12 mm	TW113507
TW103519	16 mm	TW113519
TW103520	20 mm	TW113520
TW103521	25 mm	TW113521
TW103522	30 mm	TW113522



STRAIGHT COUPLING FITTING REDUCED

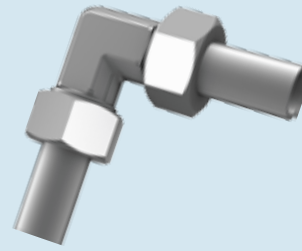
CODE STEEL	PIPE Ø E.		CODE AISI-316.L
TW104130	16mm	12mm	TW114130
TW104133	20mm	12mm	TW114133
TW104134	20mm	16mm	TW114134
TW104135	25mm	16mm	TW114135
TW104136	25mm	20mm	TW114136
TW104137	30mm	20mm	TW114137
TW104138	30mm	25mm	TW114138



PIPE FITTINGS DIN 2353

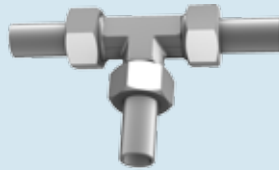
90° COUPLING FITTING

CODE STEEL	PIPE Ø E.	CODE AISI-316.L
TW103804	6 mm	TW113804
TW103805	8 mm	TW113805
TW103806	10 mm	TW113806
TW103807	12 mm	TW113807
TW102819	16 mm	TW112819
TW103820	20 mm	TW113820
TW103821	25 mm	TW113821
TW103822	30 mm	TW113822



T-SHAPED COUPLING FITTING

CODE STEEL	PIPE Ø E.	CODE AISI-316.L
TW103904	6 mm	TW113904
TW103905	8 mm	TW113905
TW103906	10 mm	TW113906
TW103907	12 mm	TW113907
TW103919	16 mm	TW113919
TW103920	20 mm	TW113920
TW103921	25 mm	TW113921
TW103922	30 mm	TW113922



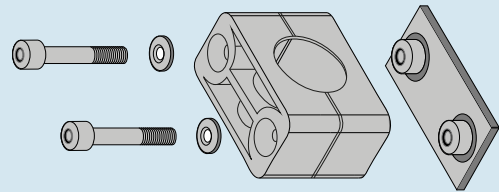
STRAIGHT COUPLING FITTING REDUCED

CODE STEEL	PIPE Ø E.			CODE AISI-316.L
	D1	D2	D2	
TW104551	16mm	12mm	16mm	TW114551
TW104554	20mm	12mm	20mm	TW114554
TW104555	20mm	16mm	20mm	TW114555
TW104557	25mm	16mm	25mm	TW114557
TW104558	25mm	20mm	25mm	TW114558



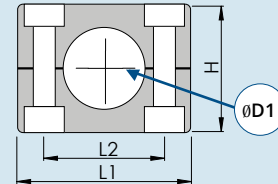
COLLAR PIPE FASTENERS WITH PLATE WELDING

SINGLE PIPE FASTENERS	CODE COLLAR	CODE PLATE
PIPE D.6	TW.C2.06.PP	TW.08.P2.M6
PIPE D.8	TW.C2.08.PP	
PIPE D.10	TW.C2.10.PP	
PIPE D.12	TW.C2.12.PP	
PIPE D.16	TW.C3.6.PP	TW.08.XP3.M6



DIMENSIONS

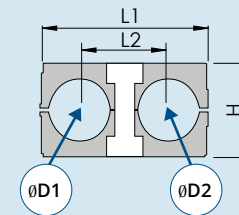
ØD1	6	8	10	12	16
L1	37	37	37	37	42
H	27	27	27	27	33



DOUBLE PIPE FASTENERS	CODE COLLAR	CODE PLATE
PIPE Ø 10mm	TW.CF1.10.PP	TW.08.P.CF1
PIPE Ø 12mm	TW.CF1.12.PP	
PIPE Ø 16mm	TW.CF2.16.PP	TW.08.P.CF2
PIPE Ø 20mm	TW.CF3.20.PP	TW.08.P.CF3
PIPE Ø 25mm	TW.CF3.25.PP	
PIPE Ø 30mm	TW.CF4.30.PP	

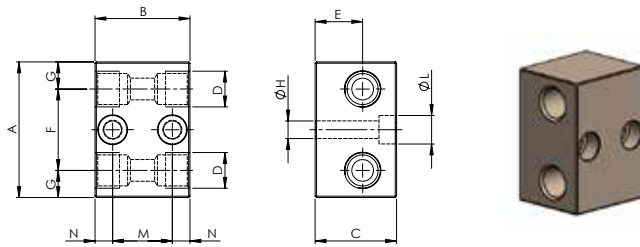
DIMENSIONS

ØD1 - D2	10-10	12-12	16-16	20-20	25-25	30-30
L1	36	36	53	67		81
H	27	27	29	37		42
L2	20	20	27	36		45

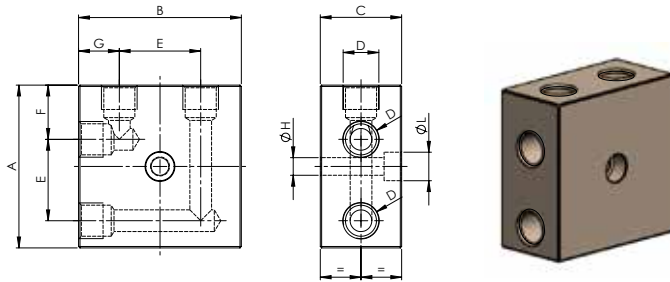


Il codice di ordinazione della piastra comprende vite di fissaggio e rondella

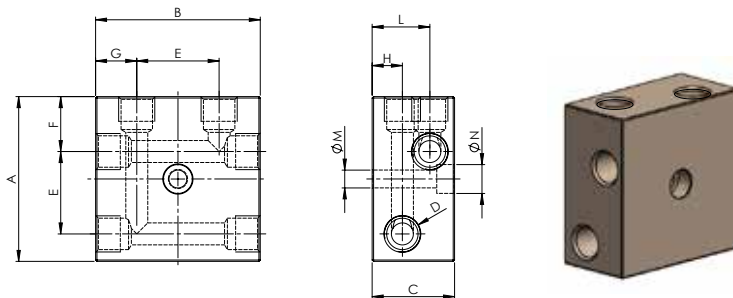
JUNCTION BLOCKS



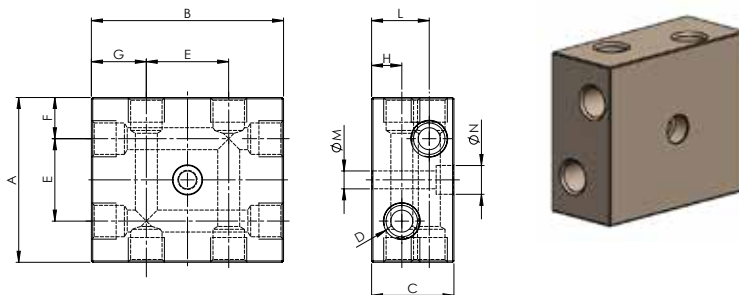
STEEL		AISI 316L STEEL											
PART NUMBER	PART NUMBER	DESCRIPTION	A	B	C	D	E	F	G	H	L	M	N
01.180.1	01.180.1.AISI	DOUBLE LINE STRAIGHT BLOCK	50	35	30	1/4 BSP	17,5	30	10	6,5	10,5	22	6,5
01.180.2	01.180.2.AISI	DOUBLE LINE STRAIGHT BLOCK	80	40	32	3/8 BSP	21,5	50	15	6,5	10,5	28	11



STEEL		AISI 316L STEEL										
PART NUMBER	PART NUMBER	DESCRIPTION	A	B	C	D	E	F	G	H	L	
01.180.3	01.180.3.AISI	DOUBLE LINE 90° BLOCK	60	60	30	1/4 BSP	30	20	15	6,5	10,5	
01.180.4	01.180.4.AISI	DOUBLE LINE 90° BLOCK	80	96	50	3/8 BSP	50	19	23	8,5	13,5	

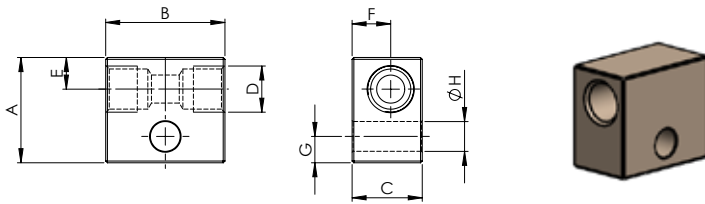


STEEL		AISI 316L STEEL											
PART NUMBER	PART NUMBER	DESCRIPTION	A	B	C	D	E	F	G	H	L	M	N
01.180.5	01.180.5.AISI	DOUBLE LINE T-SHAPED BLOCK	60	60	30	1/4 BSP	30	20	15	11	21	6,5	10,5
01.180.6	01.180.6.AISI	DOUBLE LINE T-SHAPED BLOCK	80	96	50	3/8 BSP	50	19	23	21,5	33,5	8,5	13,5

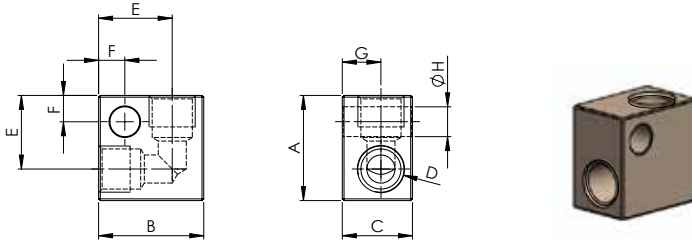


STEEL		AISI 316L STEEL											
PART NUMBER	PART NUMBER	DESCRIPTION	A	B	C	D	E	F	G	H	L	M	N
01.180.7	01.180.7.AISI	DOUBLE LINE X-SHAPED BLOCK	60	70	30	1/4 BSP	30	15	20	11	21	6,5	10,5
01.180.8	01.180.8.AISI	DOUBLE LINE X-SHAPED BLOCK	100	96	50	3/8 BSP	50	25	23	21,5	33,5	8,5	13,5

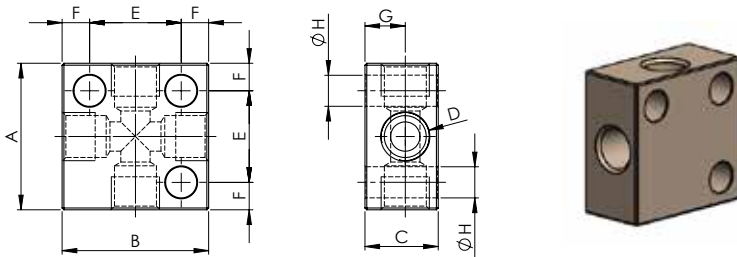
JUNCTION BLOCKS



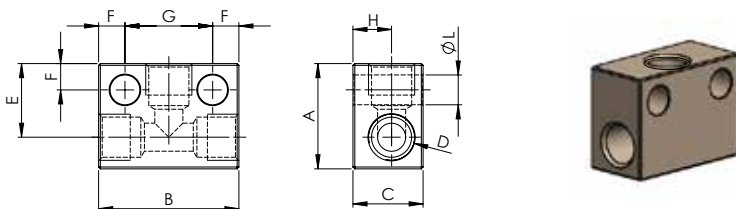
STEEL		AISI 316L STEEL		DESCRIPTION	A	B	C	D	E	F	G	H
PART NUMBER	PART NUMBER											
01.180.9	01.180.9.AISI			1/4 STRAIGHT BLOCK	30	34	20	1/4 BSP	9	11	7,5	8,5
01.181.0	01.181.0.AISI			3/8 STRAIGHT BLOCK	40	45	25	3/8 BSP	15	12,5	7,5	8,5



STEEL		AISI 316L STEEL		DESCRIPTION	A	B	C	D	E	F	G	H
PART NUMBER	PART NUMBER											
01.181.1	01.181.1.AISI			90° 1/4 BLOCK	30	30	20	1/4 BSP	21	7,5	11	8,5
01.181.2	01.181.2.AISI			90° 3/8 BLOCK	40	40	30	3/8 BSP	28	7,5	15	8,5



STEEL		AISI 316L STEEL		DESCRIPTION	A	B	C	D	E	F	G	H
PART NUMBER	PART NUMBER											
01.181.3	01.181.3.AISI			X-SHAPED BLOCK	40	40	20	1/4 BSP	25	7,5	11	8,5
01.181.4	01.181.4.AISI			X-SHAPED BLOCK	50	50	30	3/8 BSP	35	7,5	15	8,5



STEEL		AISI 316L STEEL		DESCRIPTION	A	B	C	D	E	F	G	H	L
PART NUMBER	PART NUMBER												
01.181.5	01.181.5.AISI			T-SHAPED BLOCK	30	40	20	1/4 BSP	21	7,5	25	11	8,5
01.181.6	01.181.6.AISI			T-SHAPED BLOCK	40	50	30	3/8 BSP	28	7,5	35	15	8,5