

Chapter 11

HYDRAULIC PIPING

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Enclosed with this handbook and related production.

DRAWING**DESCRIPTION**

9300/TAB-FLEX	Flexible hoses from power unit to piston characteristics
9302/1	Rigid coupling between two pistons and a safety valve (Ø 45x5)
9302/2	Rigid coupling between two pistons and a safety valve (Ø 45x5)
9302/3	Rigid coupling between two pistons and a safety valve (Ø 45x5)
9303/1	Rigid coupling between two pistons and a safety valve (Ø 60x5 – 2")
9303/2	Rigid coupling between two pistons and a safety valve (Ø 60x5 – 2")
9303/3	Rigid coupling between two pistons and a safety valve (Ø 60x5 – 2")
9303/4	Rigid coupling between two pistons and a safety valve (Ø 60x5 – 2")
9300	Instructions for the correct installation of the rigid pipes (Ø 28x2 ; Ø 35x2,5 ; Ø 42x3)
9682	Component assembly on the tank for "BY-PASS" between two coupled exchanges

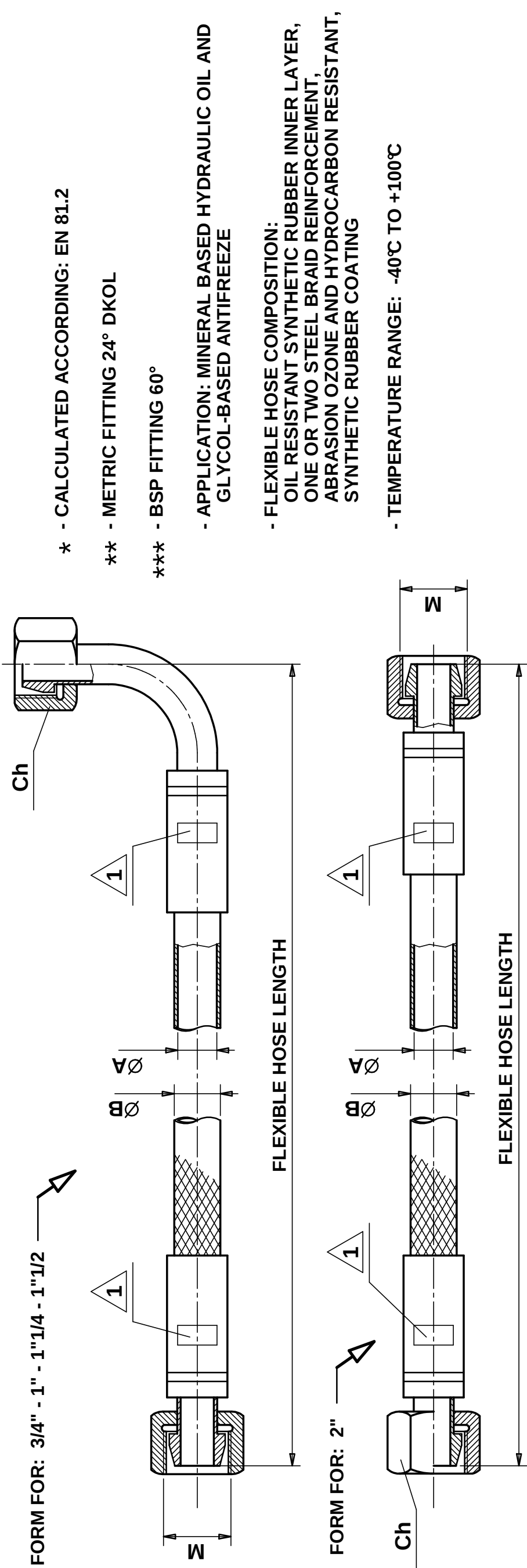
UT		Index Chapter 11	DATE	10/12
		HYDRAULIC PIPING		IN-CHAP-11

UT

FLEXIBLE HOSES FROM
POWER UNIT TO PISTON CHARACTERISTICS

DATE
07/12

DWG Nr
9301/TAB-FLEX



* - CALCULATED ACCORDING: EN 81.2

** - METRIC FITTING 24° DKOL

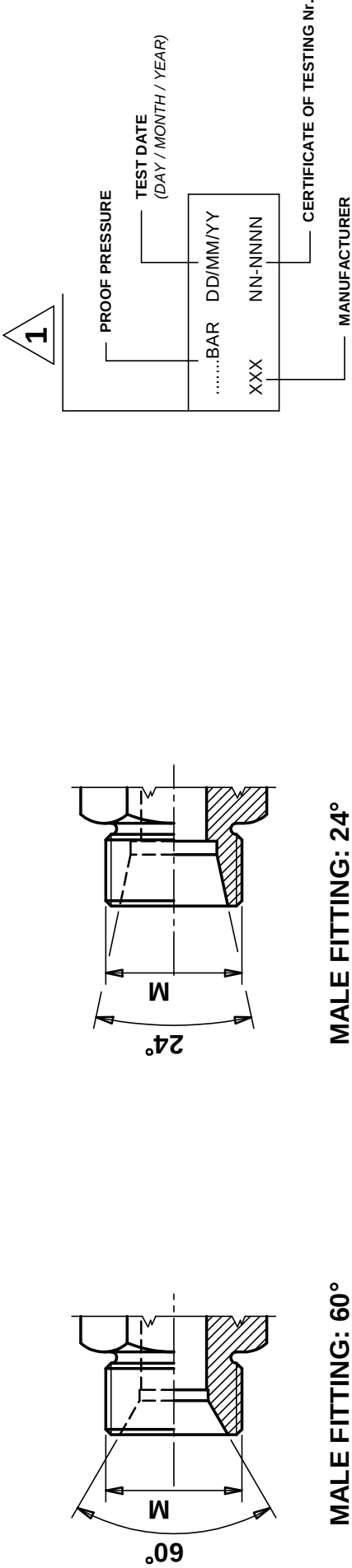
*** - BSP FITTING 60°

- APPLICATION: MINERAL BASED HYDRAULIC OIL AND GLYCOL-BASED ANTIFREEZE

- FLEXIBLE HOSE COMPOSITION:
OIL RESISTANT SYNTHETIC RUBBER INNER LAYER,
ONE OR TWO STEEL BRAID REINFORCEMENT,
ABRASION OZONE AND HYDROCARBON RESISTANT,
SYNTHETIC RUBBER COATING

- TEMPERATURE RANGE: -40°C TO +100°C

HOSE SIZE	I.D. A NOMINAL	O.D. B MAX	Ch	MIN. BEND RADIUS	M	WEIGHT (Kg/m)	MAX. OPERATING PRESSURE	MIN. BURST PRESSURE *	TEST PRESSURE *
3/4" (DN19)	19	28.5	36	240	30x2 **	0.6	50	400	250
1" (DN25)	25	34.9	41	300	36x2 **	0.74	50	400	250
1"1/4 (DN32)	32	44	50	420	45x2 **	1.22	50	400	250
1"1/2 (DN38)	38	58.8	60	500	52x2 **	2.55	50	400	250
2" (DN50)	51	68.6	70	630	BSP 2" ***	3.01	50	400	250



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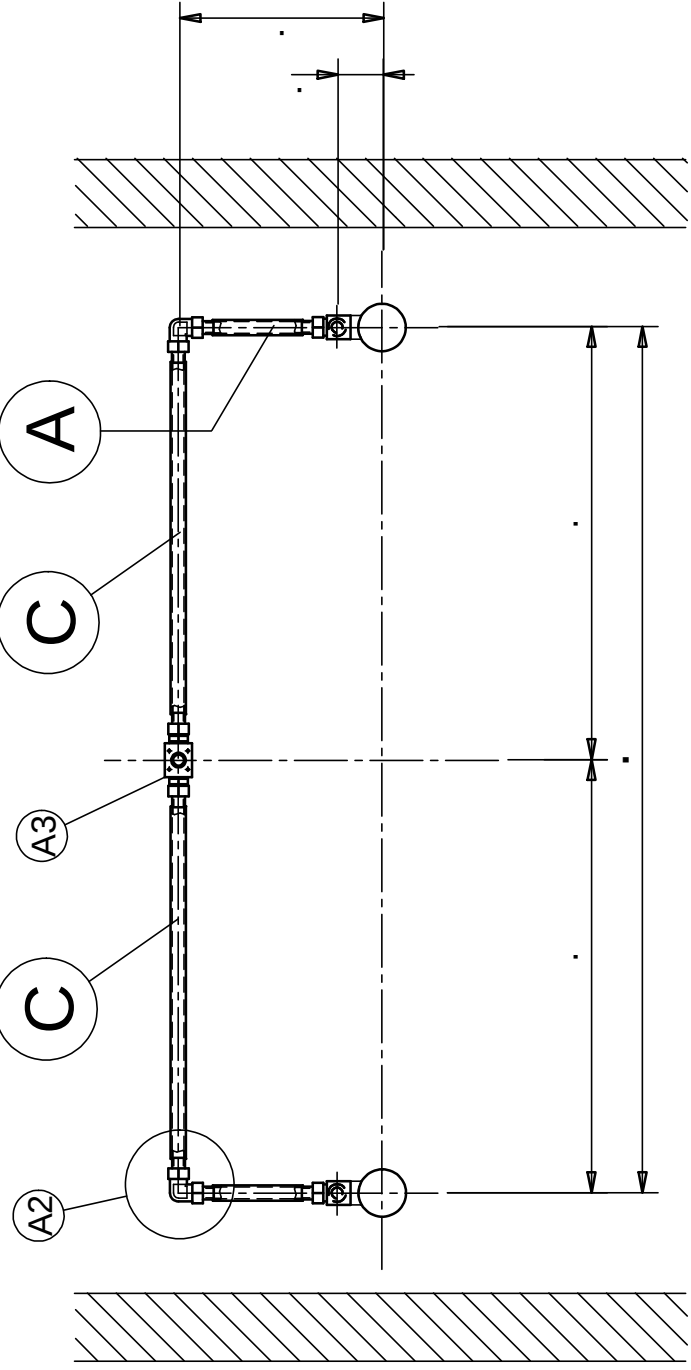
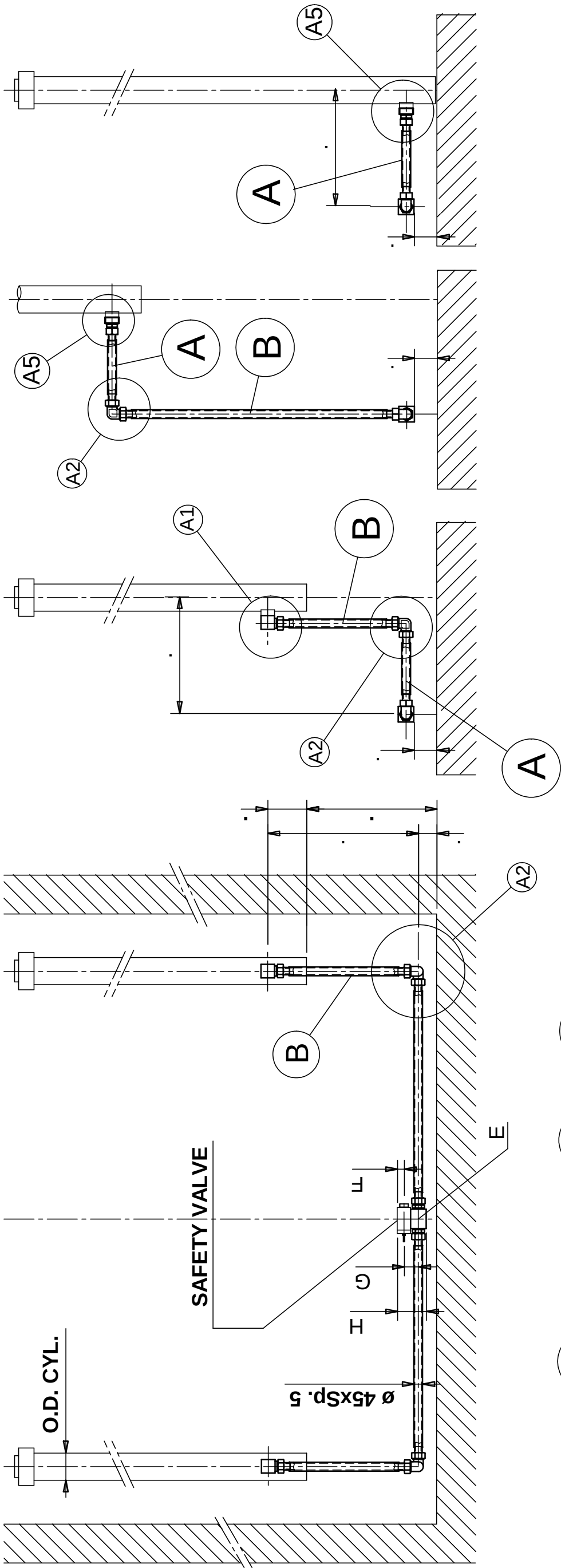
EXAMPLES OF POSSIBLE RIGID COUPLING (ø45x5 PIPES)
BETWEEN TWO PISTONS AND A SAFETY VALVE
(1"1/4; 1"1/2; 2")

DATE

10/12

DWG No

9302/1



SAFETY VALVE			
	1" 1/4	1" 1/2	2"
E	0939/12	0939/12	0939/2-12
F	35	35	37.5
G	74	74	136.5
H	149	149	214
CUSTOMER'S REQUEST	☐	☐	☐
QUANTITY			

CUSTOMER'S: _____
PURCHASE ORDER No: _____

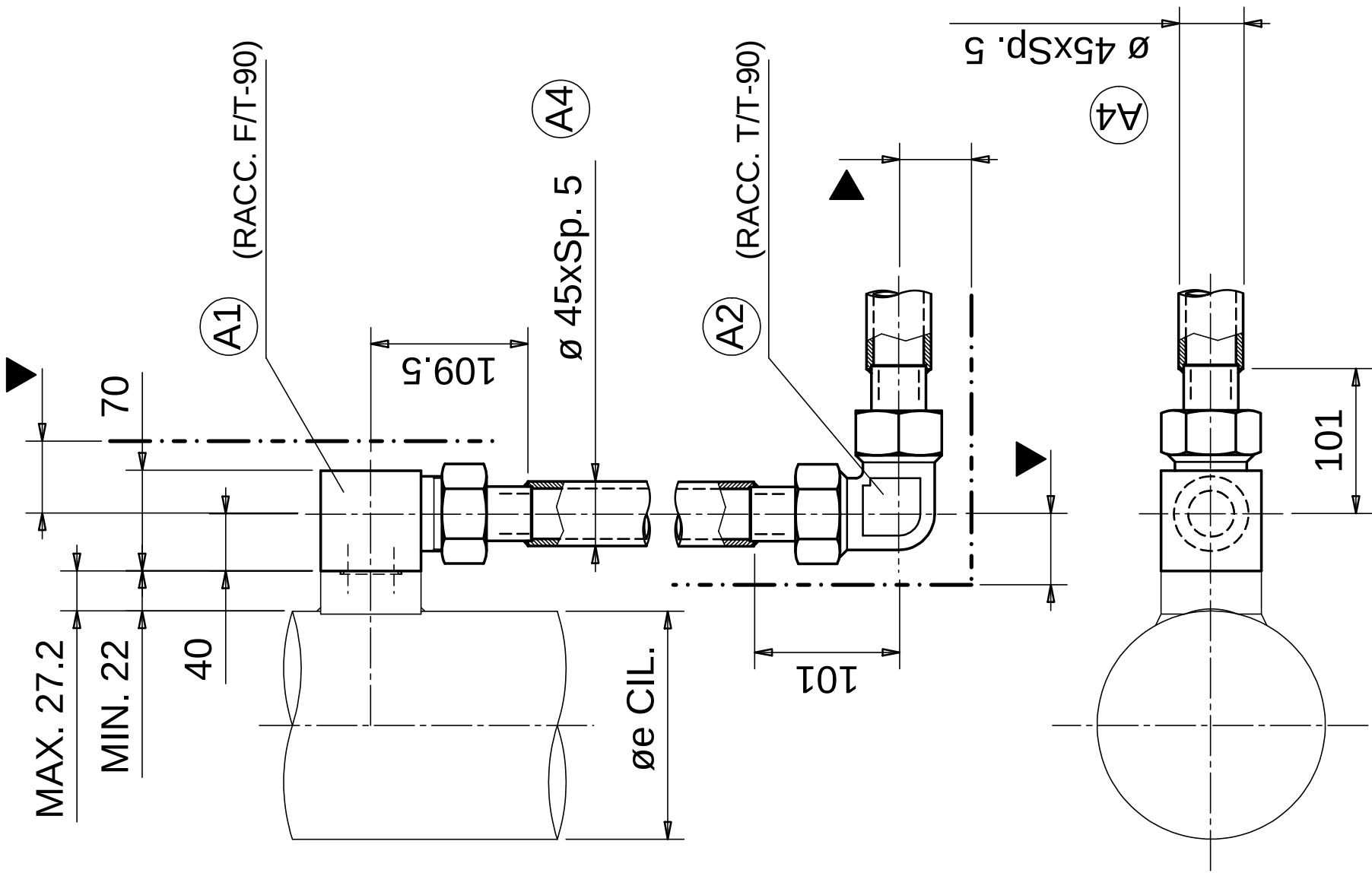
NOTE:
- FOR SIZING OR DIFFERENT CONFIGURATIONS FROM THOSE REPRESENTED OF
ø 45x5 WELDED PIPES, CONTACT MORIS SALES DEPARTMENT

UT	

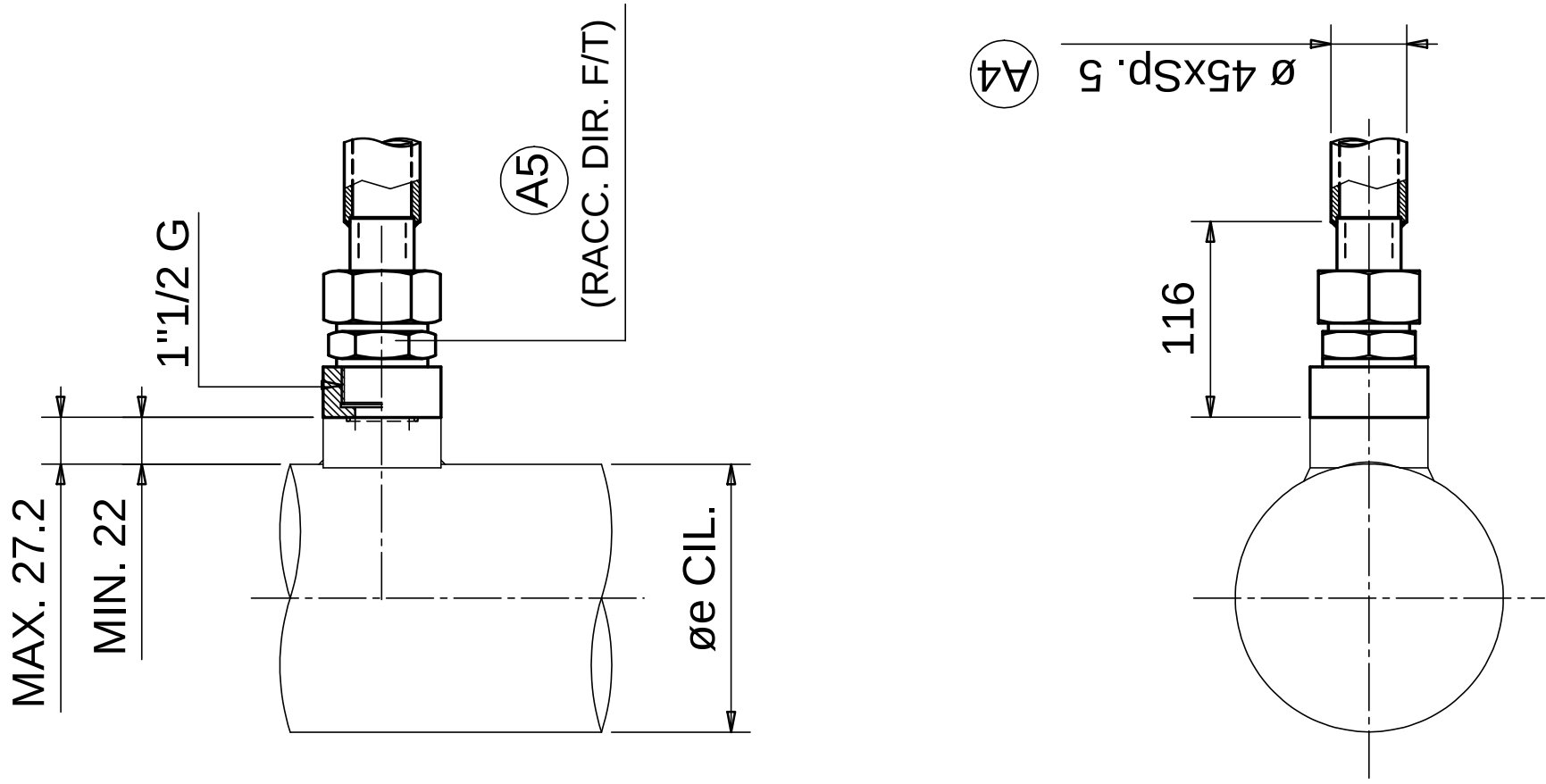
DETAILS ABOUT RIGID COUPLING (ø 45x5 PIPES)
BETWEEN TWO PISTONS AND A SAFETY VALVE
(1"1/4; 1"1/2; 2")

DATE	10/12
DWG N°	9302/3

▼ = 50 mm, MIN. DISTANCE FOR ASSEMBLY RECOMMENDED



SOLUTION "A"

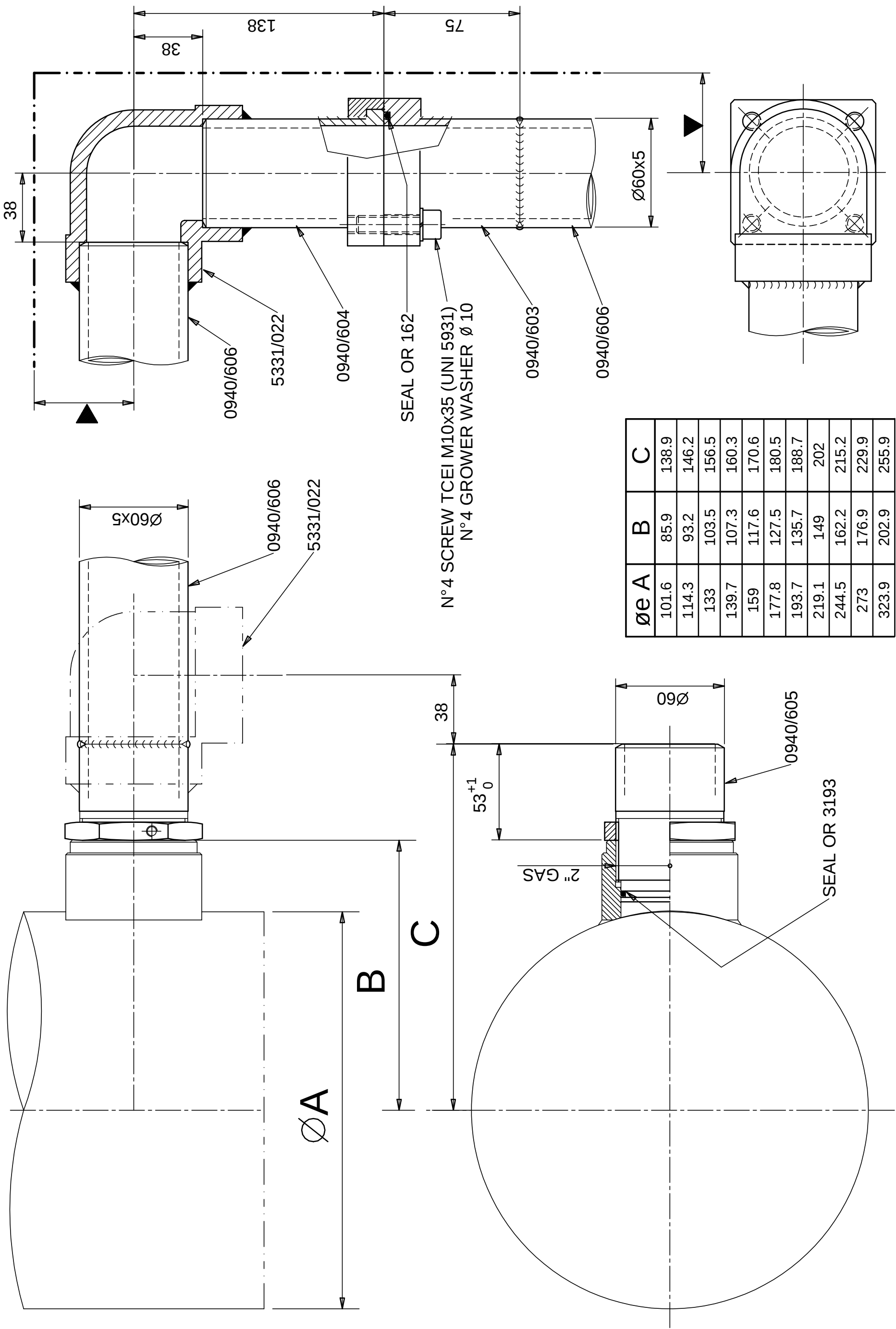


SOLUTION "B"

UT		

CONNECTION TO PISTON WHITH DIFFERENT
CONNECTIONS SOLUTION
(ø 60x5 - 2")

DATE	12/07
DWG NR	9303/3

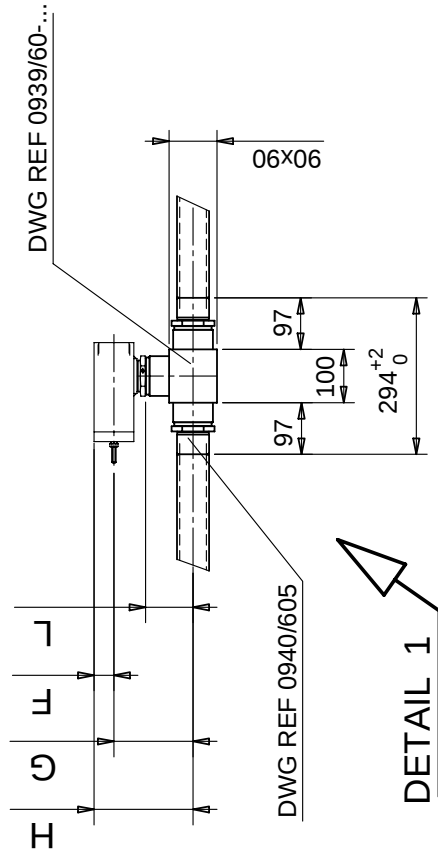
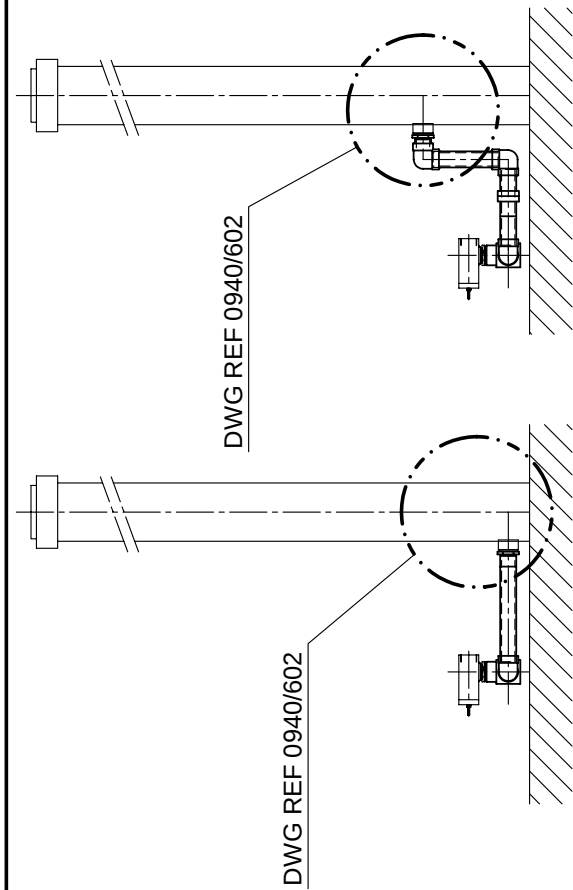
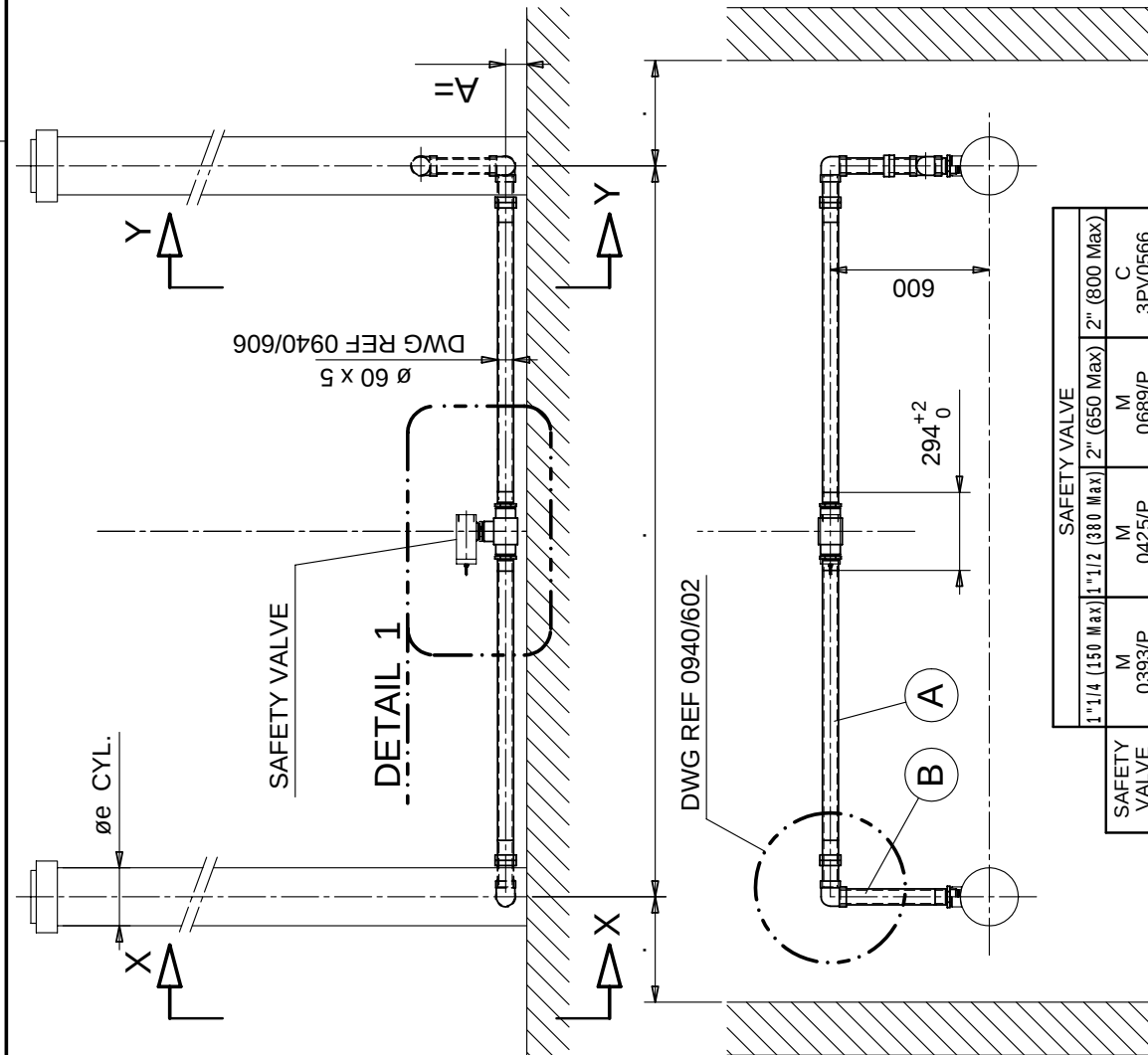


▼ = 55 mm, MIN. DISTANCE FOR ASSEMBLY

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**RIGID COUPLING BETWEEN TWO PISTONS
AND ONE SAFETY VALVE
(ø 60x5 - 2")**

DATE	04/07
DWG Nr	9303/4



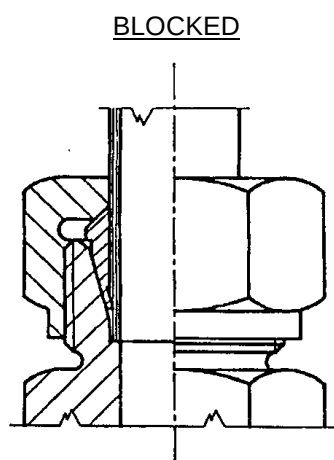
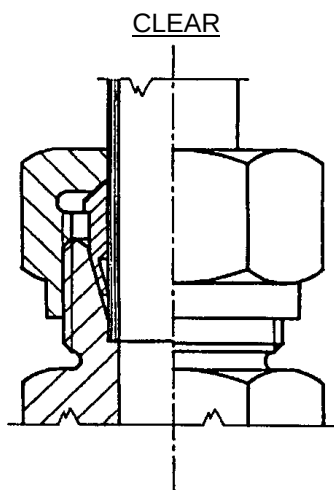
DETAIL 1

SAFETY VALVE	SAFETY VALVE				
	1"1/4 (150 Max)	M 0393/P	M 0425/P	M 0689/P	C 3PV0566
L	85	85	85	89	81
F	35	40	40	37.5	45
G	140.5	147.5	148.5	148.5	213
H	175.5	187.5	186	186	258
CUSTOMER'S REQUEST	☐	☐	☐	☐	☐
QUANTITY	1	1	1	1	1

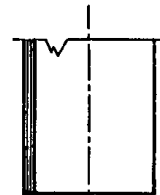
CUSTOMER'S: _____ PURCHASE ORDER NR: _____

NOTE:

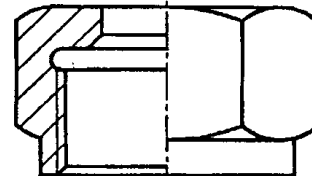
- TO MARK THE CONSTRUCTIVE SOLUTION ☒



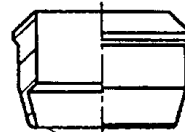
PIPING



LOCK NUT

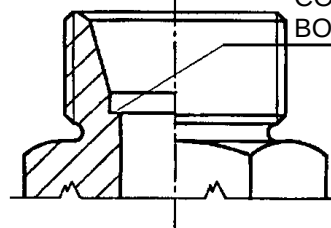


NICKING RING



NICKING EDGE

END JOINT

COUNTER-
BORING

- 1) FOLLOW THE CUT OF THE PIPE CLOSELY AT RIGHT ANGLES.
- 2) THE PIPE MUST BE FREE OF BURR OR ANY INTERNAL IMPURITIES.
- 3) THE RING AND THREADS MUST BE LUBRICATED DURING INSTALLATION.
- 4) FIRSTLY INSERT THE LOCK NUT AND THEN THE NICKING RING WITH THE NICKING EDGE TURNED TOWARDS THE END JOINT.
- 5) THE PIPE MUST THEN BE INSERTED INTO THE END JOINT AND MUST REST AGAINST THE COUNTERBORING. THE LOCK NUT MUST THEN BE TIGHTEND BY HAND AS FAR AS POSSIBLE.
- 6) TAKE A SPANNER WITH AN EXTENSION, AND TIGHTEN THE LOCK NUT AT LEAST 1 AND ½ TURNS UNTIL THE NICKING EDGE TOUCHES THE PIPE (AS SHOWN ABOVE)
- 7) LOOSEN THE LOCK NUT, CHECKING THAT THE NICKING RING IS ABOUT 5 mm PROJECTING FROM THE PIPE OUTSIDE: CHECK THAT IT DOES NOT MOVE FROM THIS POSITION, AND THAT AT THE NICKING POINT THERE IS AN EVEN RIM THAT SHOWS THE OCCUREDE NICKING.
- 8) PROCEED WITH THE TIGHTENING AND BLOCKING OF LOCK NUT.

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INSTRUCTIONS FOR THE CORRECT INSTALLATION OF THE PIPE-WORK

DATA

04/90

N.DIS

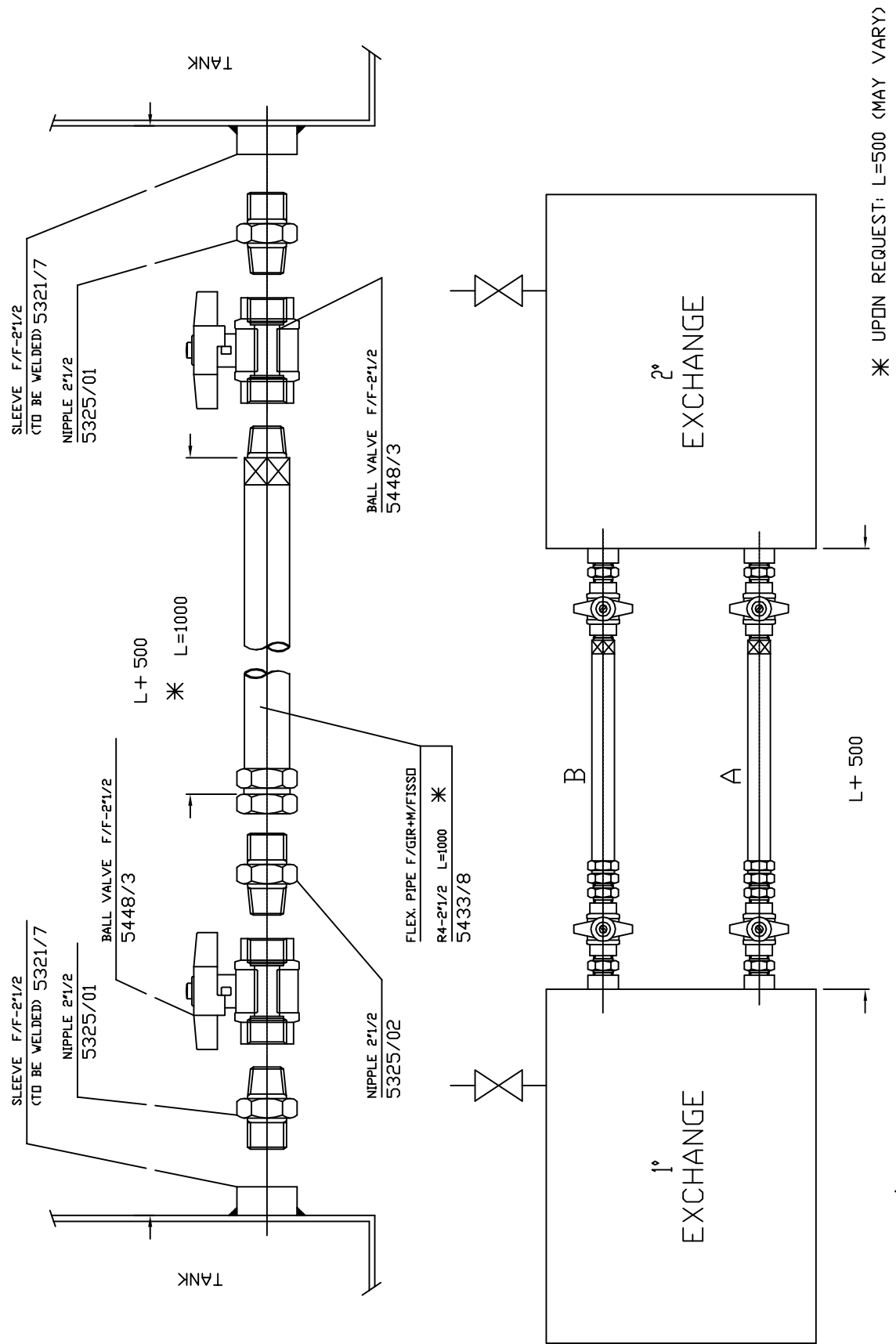
9300

UT		

COMPONENTS ASSEMBLY ON THE TANK FOR "BY-PASS" BETWEEN TWO COUPLED EXCHANGES TANK

DATE	04/00
DWG NR	9682

9682-IN



A = BY-PASS 180 (55/180)

A+B = BY-PASS 650 (210/650)