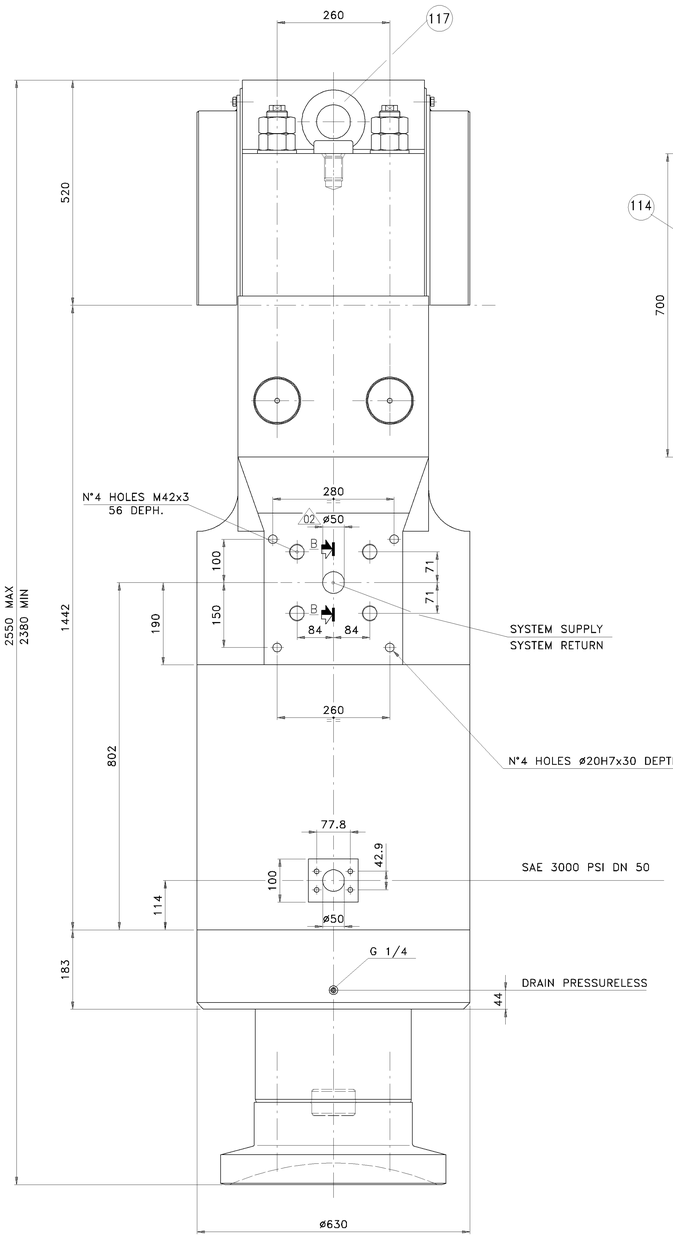
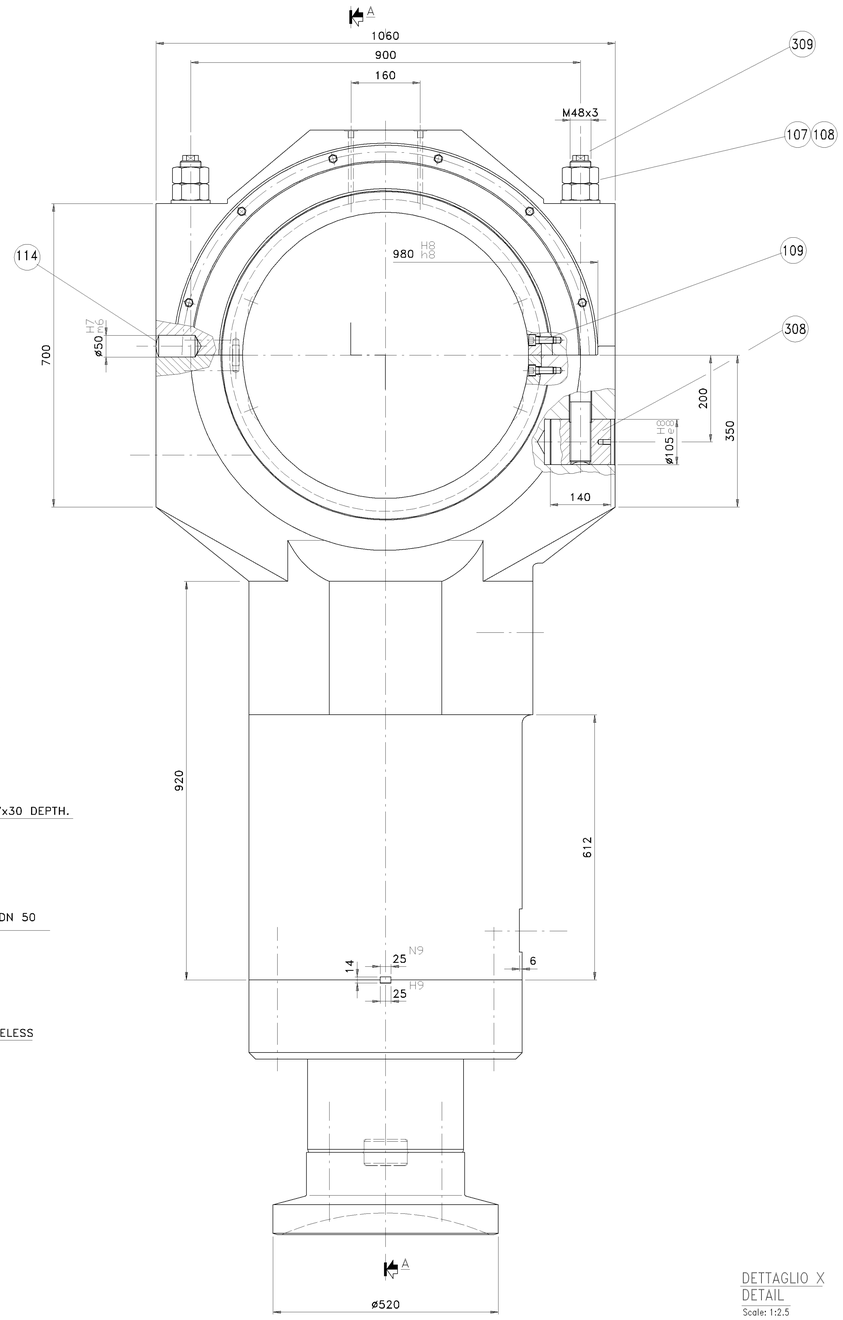
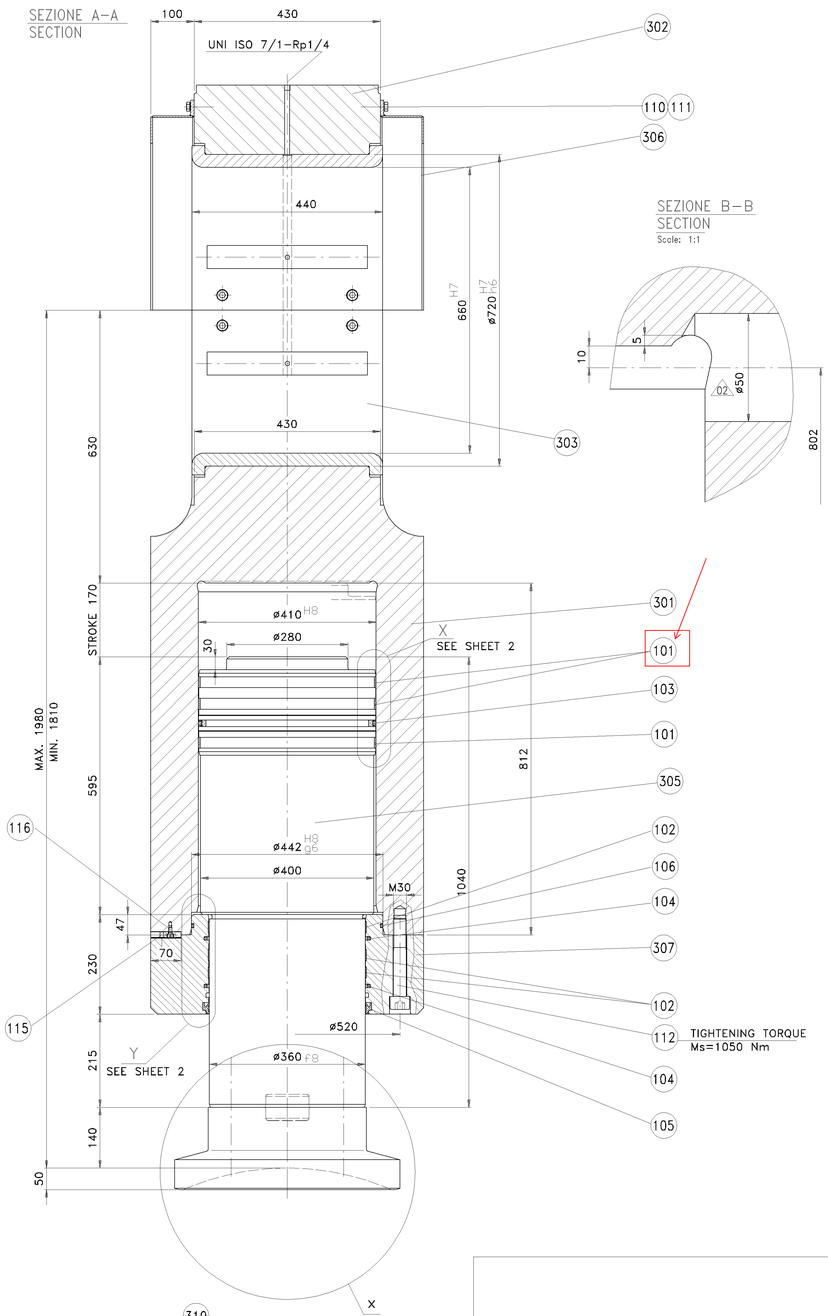
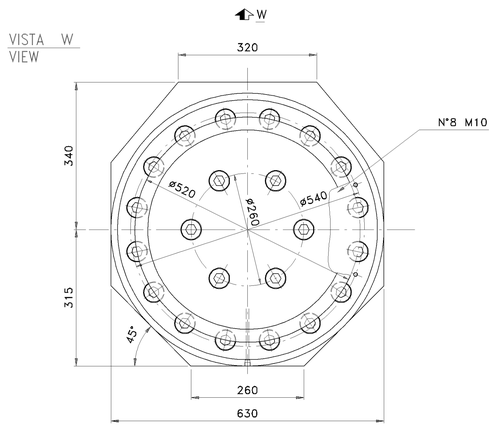
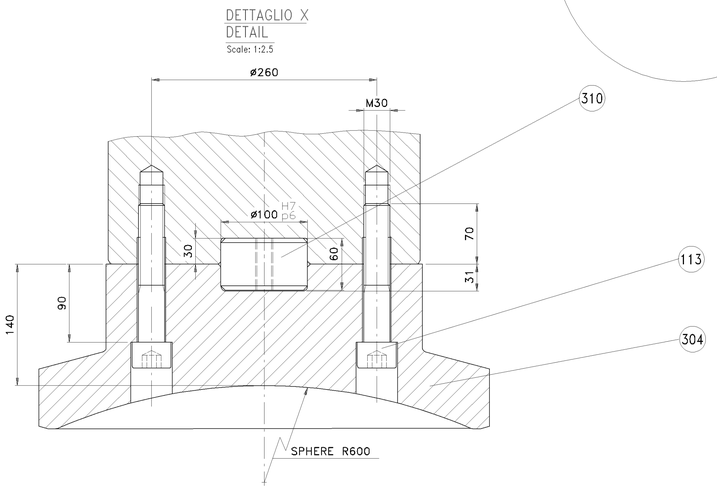








CYLINDER DATA	
PISTON DIAMETER	– 410mm
ROD DIAMETER	– 360mm
STROKE	– 170mm
CYLINDER AREA	– 1320/302cm²
FLUID	– QUINTOLUBRIC 822–300 OR EQUAL
MAX FLUID TEMPERATURE	– 50°C
NOMINAL WORKING PRESSURE	– 380 BAR by 900 TONS
MAX WORKING PRESSURE	– 550 BAR by 1450 TONS
VALVE OPENING PRESSURE	– 600 BAR by 1580 TONS



REV.	FILE	DATA DATE	DESCRIZIONE DESCRIPTION	DISEGNATO DRAWED	CONTROL. CHECKED	APPROVATO APPROVED
02	C M	02.98	MODIFIED WHERE INDICATED 02	ODDRICO	BONDI	ORIGANI
01	C M	04.97	ISSUED FOR MANUFACTURING	SEILER	BONDI	ORIGANI
00	C M	02.97	ISSUED FOR INFORMATION	SEILER	BONDI	ORIGANI

REVISIONI–REVISIONS

DANIELI UNITED

SCALA SCALE	MASSA (Kg) MASS	(misure originali)	CLASSIFICAZIONE CLASSIFICATION	FORM SIZE
1:5	5100			A0

OGGETTO–:
TITOLO–TITLE–: SAFETY CYLINDER
MECHANICAL ASSEMBLY

DISEGNATO DRAWED	CONTROL. CHECKED	APPROVATO APPROVED
SEILER	BONDI	ORIGANI
DATA DATE	DATA DATE	DATA DATE
02.97	02.97	02.97

8.140721.N

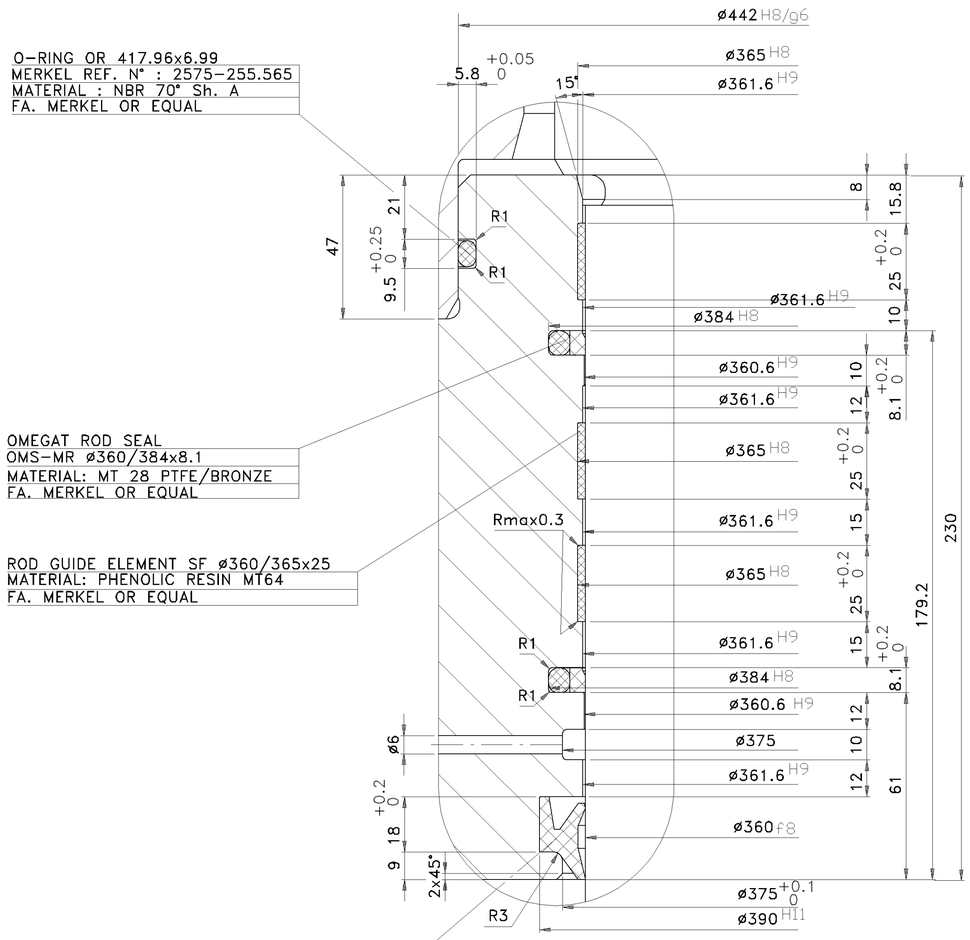
FOGLIO SHEET 1/2 FOGLI TOTALI 2/2

COMPUTER AIDED DESIGN

81407211

COMPUTER AIDED DESIGN

DETTAGLIO Y
DETAIL FROM SHEET 1



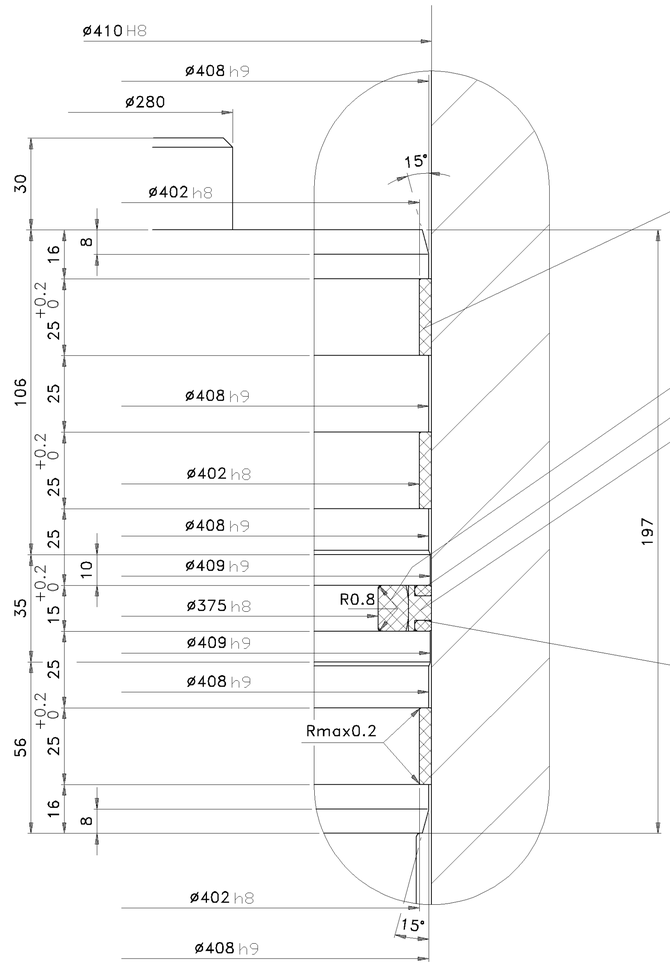
O-RING OR 417.96x6.99
MERKEL REF. N° : 2575-255.565
MATERIAL : NBR 70° Sh. A
FA. MERKEL OR EQUAL

OMEGAT ROD SEAL
OMS-MR ø360/384x8.1
MATERIAL: MT 28 PTFE/BRONZE
FA. MERKEL OR EQUAL

ROD GUIDE ELEMENT SF ø360/365x25
MATERIAL: PHENOLIC RESIN MT64
FA. MERKEL OR EQUAL

DOUBLE WIPER P9-ø360x390x27
MERKEL REF. N° : 2517-224.923
MATERIAL: NBR.-90 SHORE
FA. MERKEL OR EQUAL

DETTAGLIO X
DETAIL FROM SHEET 1



PISTON GUIDE ELEMENT KF25x4
PHENOLIC RESIN MT64
FA. MERKEL OR EQUAL

MATERIAL : NBR 80° Sh.A
MATERIAL: POM/PA
MATERIAL: MT 28 PTFE/BRONZE

PISTON SEAL GASKET
OMK-SD ø410/375x15
FA. MERKEL OR EQUAL

REV.	FILE	DATA DATE	DESCRIZIONE DESCRIPTION	DISEGNATO DRAWED	CONTROL. CHECKED	APPROVATO APPROVED
02	CM	02.98	MODIFIED WHERE INDICATED 02	ODORICO	BONDI	DRIGANI
01	CM	04.97	ISSUED FOR MANUFACTURING	SEILER	BONDI	DRIGANI
00	CM	02.97	ISSUED FOR INFORMATION	SEILER	BONDI	DRIGANI

REVISIONI-REVISIONS

DANIELI UNITED

SCALA SCALE	MASSA (Kg) MASS	J=MxR² (Kgxm²)	CLASSIFICAZIONE CLASSIFICATION	FORM. SIZE
1:1	/			A1

OGGETTO: SAFETY CYLINDER
TITOLO-TITLE: MECHANICAL ASSEMBLY

DISEGNATO DRAWED	CONTROL. CHECKED	APPROVATO APPROVED
SEILER	BONDI	DRIGANI
DATA DATE	DATA DATE	DATA DATE
02.97	02.97	02.97

8.140721.N

FOGLIO SHEET 2/2 SEGUE FOLLOW -/-

COMPUTER AIDED DESIGN

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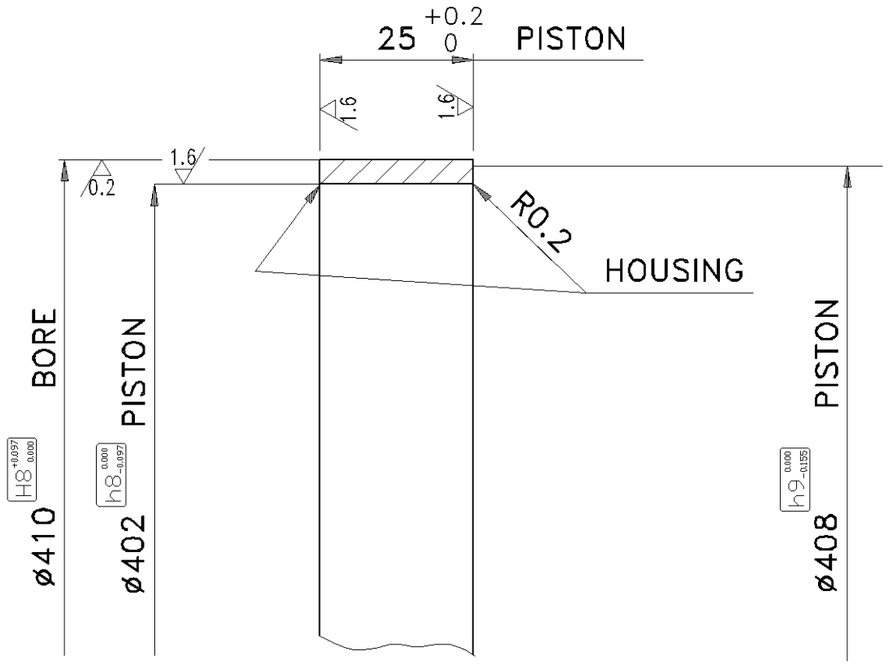
COMPUTER AIDED DESIGN



"MERKEL" PISTON GUIDE ELEMENT KF 25x4 (LENGHT 1265_{-2}^{0})
MATERIAL: PHENOLIC RESIN MT64
OPERATING MEDIUM: QUINTOLUBRIC 822-300
MAN. MERKEL OR EQUAL

COMPUTER AIDED DESIGN

4499909D

REV.	FILE	DATA DATE	DESCRIZIONE DESCRIPTION	DISEGNATO DRAWN	CONTROL. CHECKED	APPROVATO APPROVED
00	C M	04.97	ISSUED FOR MANUFACTURING	SEILER	BONDI	DRIGANI

REVISIONI-REVISIONS

GRUPPO-UNIT	POS.-ITEM	GRUPPO-UNIT	POS.-ITEM	GRUPPO-UNIT	POS.-ITEM
				8.140721.N	101

RIFERIMENTI-REFERENCES

COMMESSA N.-JOB N.	PEZZI N. N. OF PARTS	N.PROGRESSIVO PROGRESSIVE N.

MATERIALE-MATERIAL	MODELLO N.-PATTERN N.	TRATTAMENTI TERMICI-HEAT TREATMENTS
FROM TRADE	DB (CODICE CODE)	

DANIELI UNITED

SCALA SCALE	MASSA (Kg) MASS	J=MxR² (Kgxm²)	CLASSIFICAZIONE CLASSIFICATION	FORM. SIZE
1:1	0.25			A3

OGG.RE.:

TITOLO-TITLE: PISTON GUIDE ELEMENT

DISEGNATO DRAWN	CONTROL. CHECKED	APPROVATO APPROVED
SEILER	BONDI	DRIGANI
DATA DATE	DATA DATE	DATA DATE
04.97	04.97	04.97

4.499909.D

FOGLIO SHEET | SEGUE FOLLOWS /

COMPUTER AIDED DESIGN

Table I Selection Criteria for Slydring®

Slydring®		Application					Standard[1]	Installation	Material
Type	Page	Field of Application	Light	Medium	Heavy	Mating Surface	ISO	Size Range mm	Recommended Slydring® Material
Turcite®/ Zurcon® Slydring®	9	Mobile hydraulics Standard cylinders Machine tools Injection moulding machines Automotive industry	● ● ● ● ●	- ● ● ● ●	- - - - -	Steel Steel, hardchromed Cast iron Mild steel Stainless steel Aluminium, Bronze	ISO 10766	Off-the-roll up to diameter 4200	Turcite® T47 Turcite® T51
		Pneumatics Water hydraulics Dry application	● ● ●	- ● ●	- - -	Mild steel Stainless steel Aluminium, Alloys			Turcite® T59
		Foodstuff industry Water hydraulics Dry application Pneumatics	● ● ●	● ● ●	 - - -	Steel Mild steel Steel, hardchromed Stainless steel Aluminium, Bronze Ceramic coating	ISO 10766	Off-the-roll up to diameter 4200	Zurcon® Z80 UHMWPE
HiMod® Slydring®	20	Mobile hydraulics Standard cylinders Agricultural machinery	● ● ●	● ● ●	● - -	Steel Steel, hardchromed Cast iron	ISO 10766	Rings up to diameter 300	HiMod® HM061 POM/Glass fibre
		Mobile hydraulics Standard cylinders Agricultural machinery	● ● ●	● ● ●	- - -	Steel Steel, hardchromed Cast iron			HiMod® HM062 PA/Glass fibre + PTFE
		Mobile hydraulics Standard cylinders Agricultural machinery	● ● ●	● ● ●	● - -	Steel Steel, hardchromed Cast iron			HiMod® HM063 PA/Glass fibre
Luytex® Slydring®	42	Mobile hydraulics Standard cylinders Presses	- ● ●	● ● ●	● ● ●	Steel Steel, hardchromed Cast iron Ceramic coating	ISO 10766	Rings up to diameter 1500[2]	Luytex® C320 Polymer/fabric
		Mobile hydraulics Standard cylinders Water hydraulics Shipping and marine engineering Presses	- ● ● ● ●	● ● ● ● ●	● ● ● ● ●	Steel Steel, hardchromed Cast iron Stainless steel			Luytex® C380 Polymer/fabric
		Mobile hydraulics Standard cylinders Presses	- ● ●	● ● ●	● ● ●	Steel Steel, hardchromed Cast iron Stainless steel		Rings up to diameter 1200[2]	Luytex® C931 Phenolic/cotton

1) For Slydring® to other standards, e.g to French standard NF E 48-037, please contact us.
2) Segments made from off-the-roll material can be used for larger diameters.

MAT:PHENOLIC RESIN MT64
LENGHT=1265 mm

Installation Recommendation, Turcite® and Zurcon® Slydring® for Piston According to ISO 10766 Groove Dimensions

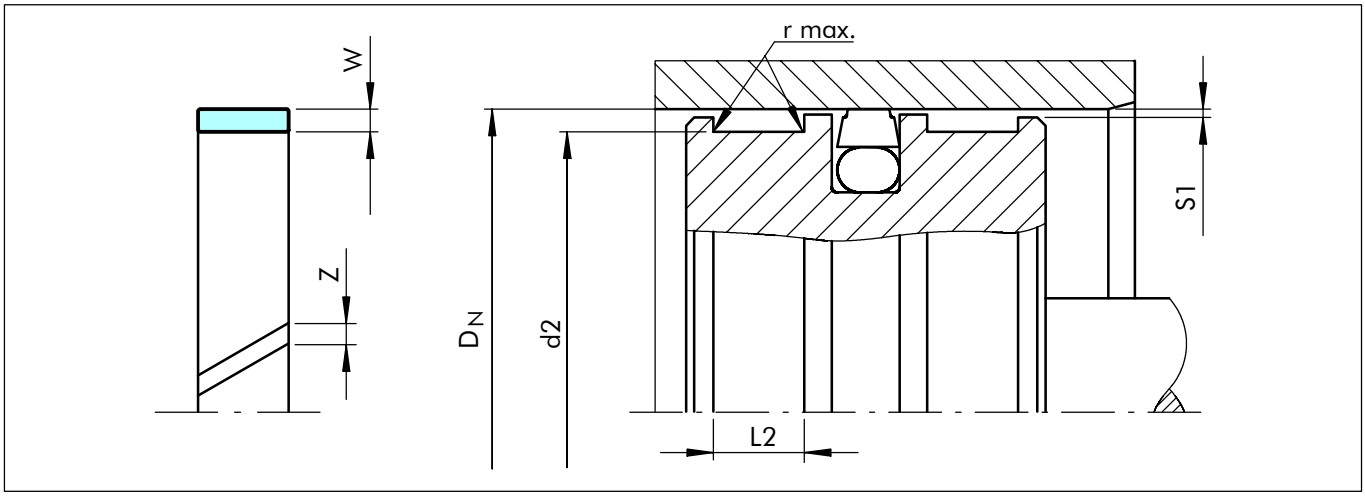


Figure 9 Installation drawing

Table VIII Installation Dimensions

Serial No.	Bore Diameter[1]	Groove Diameter	Groove Width	Ring Thickness	Ring Gap[3]
	D_N H9	d_2 h8	L_2 +0.2	W	Z
GP41	8 - 20.0	D_N -3.10	2.50	1.55	1 - 2
GP43	10 - 50.0	D_N -3.10	4.00	1.55	1 - 3
GP65	16 - 140.0	D_N -5.00	5.60	2.50	1 - 6
GP69	60 - 220.0	D_N -5.00	9.70	2.50	3 - 8
GP73	130 - 400.0	D_N -5.00	15.00	2.50	5 - 14
GP75	280 - 999.9	D_N -5.00	25.00	2.50	10 - 33
GP75X	1000-4200.0	D_N -5.00	25.00	2.50	33-134
GP98	280 - 999.9	D_N -8.00	25.00	4.00	10 - 33
GP98X	1000-2200.0	D_N -8.00	25.00	4.00	33 - 70
GP99[4]	100 - 999.9	D_N -8.00	9.70	4.00	4 - 33

[1] Recommended diameter ranges. [3] Calculation of the straight length, see page ?. [4] Non ISO 10766 standard.

For Slydring® to other standards, e.g French standard NF E 48-037, please contact us.

Table IX Recommended Radii for Groove Dia.

D_N	r max.
8 - 250	0.2
>250	0.4

Table X Radial Clearance S1 [2]

Bore Dia. D_N	S1 min.	S1 max.
8 - 20	0.20	0.30
20 - 100	0.25	0.40
101 - 250	0.30	0.60
251 - 500	0.40	0.80
501 - 1000	0.50	1.10
>1001	0.60	1.20

[2] Specifications valid only in the area of the Slydring®, but not for the seal area.

Table XI Surface Roughness

Parameter	Mating Surface µm		Groove Surface µm
	Turcite® Materials	Zurcon® Materials	
R_{max}	0.63 - 4.00	1.00 - 4.00	< 16.0
$R_{z\ DIN}$	0.40 - 2.50	0.63 - 2.50	< 10.0
R_a	0.05 - 0.40	0.10 - 0.40	< 2.5