



electrotrans

TURNUD PARTS & BUSHINGS

Catálogo de Productos



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Electrotrans S.A. se dedica a la estampación, forja y mecanizado de piezas de latón desde la década de los 80.

A lo largo de su trayectoria se ha especializado en la fabricación y comercialización de pasatapas y aisladores para transformadores eléctricos de distribución bañados en aceite en B.T. y A.T., desde 250 A hasta 5.000 A , así como todos su accesorios según las normas DIN, UNE y EN.

Electrotrans S.A. se adapta a las necesidades de sus clientes, fabricando piezas especiales de encargo según planos del solicitante, en latón, cobre o acero, suministrando juntas de acuerdo a los requerimientos especiales que puedan precisar.



La Calidad es un elemento fundamental disponiendo de las certificaciones **ISO9001:2000** e **ISO14001:2004** por **SGS** acreditado por **ENAC**.

En éste catálogo se encuentran reunidas las principales piezas que fabricamos para transformadores de distribución y potencia. La mayoría de éstas piezas se encuentran en permanente stock disponiendo de otros elementos no detallados (consultar).

Ofrecemos la posibilidad de servir todos los conjuntos pasatapas montados, en los cuales se pueden incluir las porcelanas y las juntas o bien servir las piezas separadamente.

Debido a nuestra política de mejora continua, las dimensiones y diseños pueden ser susceptibles de cambio.



PASATAPAS

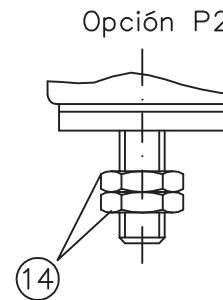
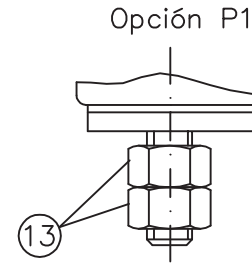
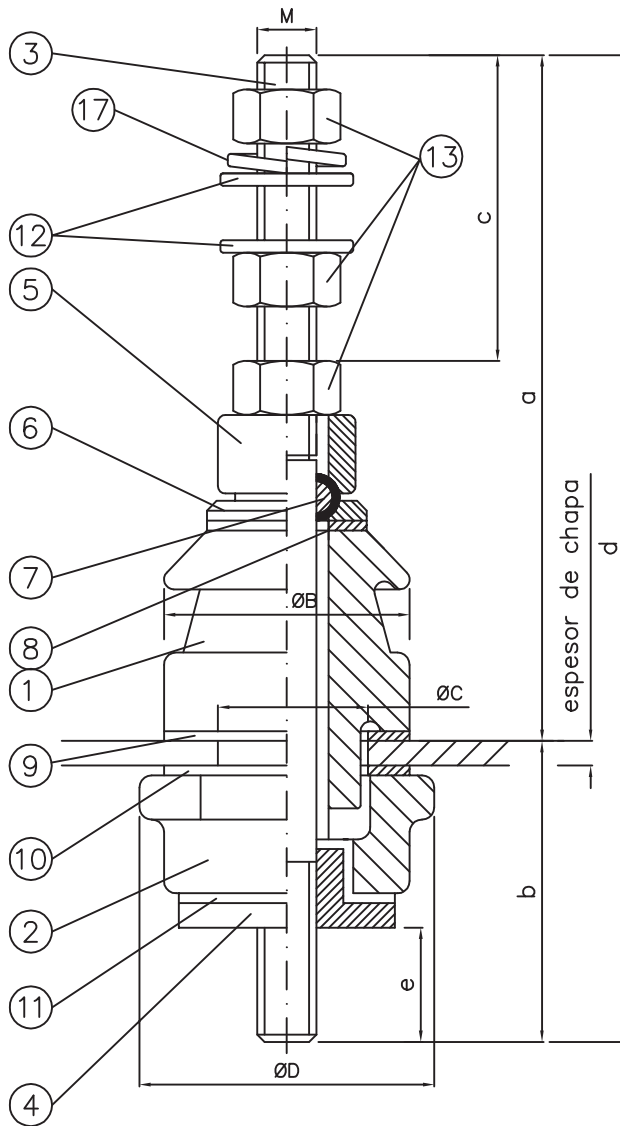
DIN

EN-AP

UNE

CONJUNTO PASATAPAS 1KV 250-630A DIN 42530

BUSHING WITH INSULATOR FOR TRANSFORMER 1KV 250-630A DIN 42530

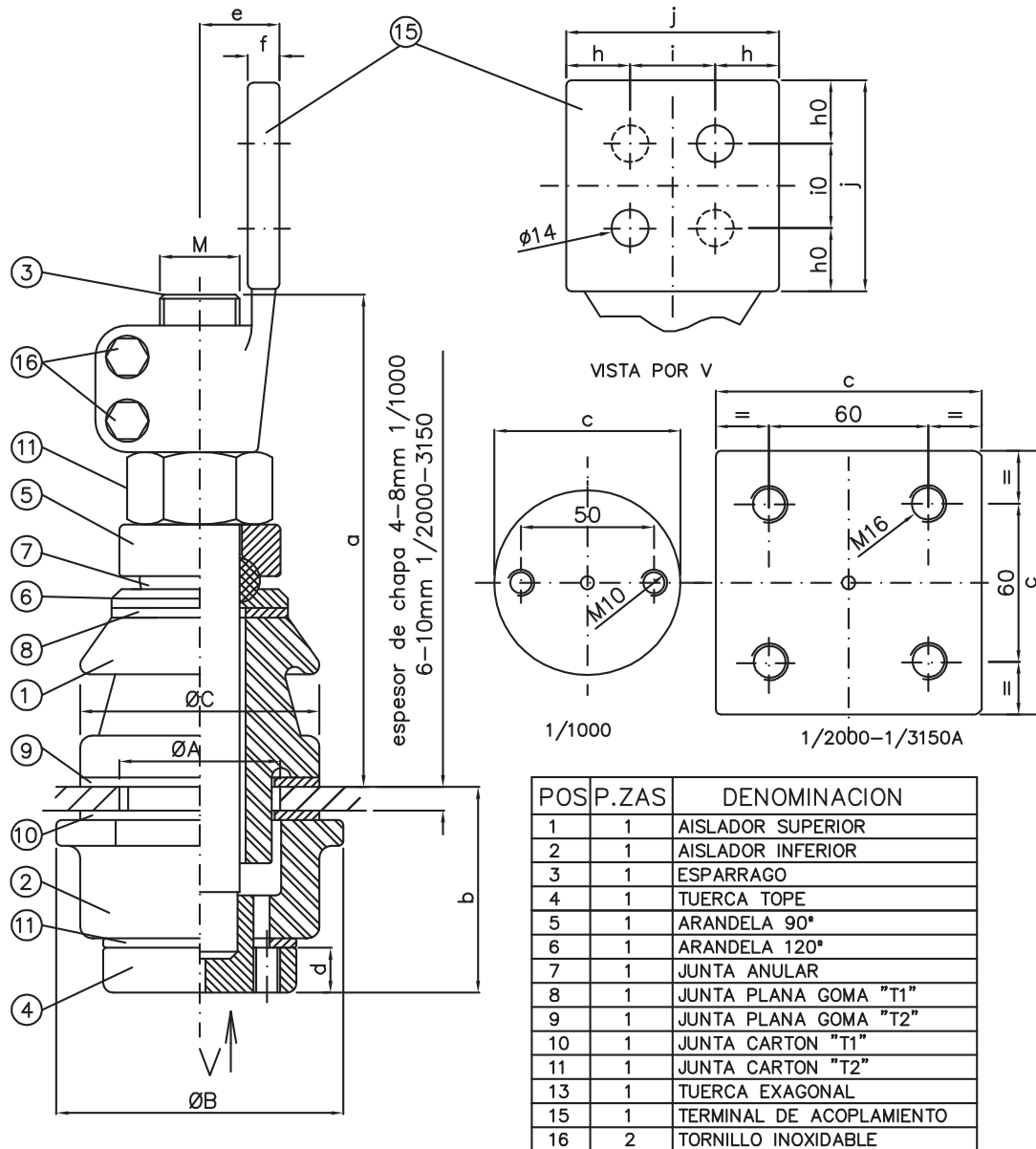


MARCA	Nº.PIEZAS	DENOMINACION
1	1	AISLADOR SUPERIOR
2	1	AISLADOR INFERIOR
3	1	ESPARRAGO
4	1	TUERCA TOPE
5	1	ARANDELA 90°
6	1	ARANDELA 120°
7	1	JUNTA ANULAR
8	1	JUNTA PLANA GOMA "T1"
9	1	JUNTA PLANA GOMA "T2"
10	1	JUNTA CARTON "T1"
11	1	JUNTA CARTON "T2"
12	2	ARANDELA PLANA
13	3/5	TUERCA EXAGONAL
14	2/0	CONTRATUERCA EXAGONAL
17	1	ARANDELA GROWER

TIPO	Am	a	b	c	d	e	ØB	ØC	ØD	M
1/ 250	250	138	67	40	205	25	56	28	60	M12
1/ 630	630	178	82	65	260	37	70	45	85	M20

CONJUNTO PASATAPAS 1KV 1000-2000-3150 DIN 42530

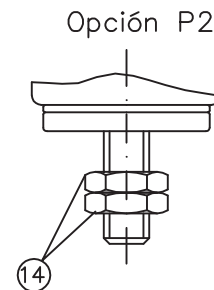
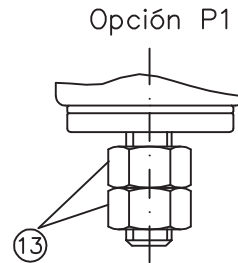
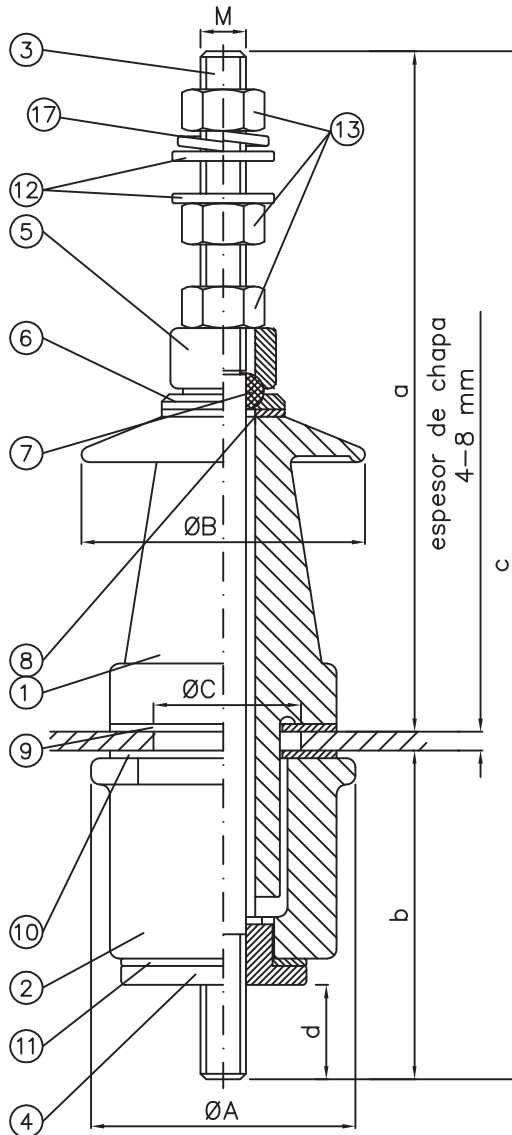
BUSHING WITH INSULATOR FOR TRANSFORMER 1KV 1000-2000-3150 DIN 42530



TIPO	Am	a	b	c	d	e	f	ØA	ØB	ØC	h	i	h0	i0	j	M	P
1/1000	1000	200	52	70	17	28	10	56	110	90	17	26	17	26	60	M30x2	4.8
1/2000	2000	240	57	100	22	40	15	70	125	104	25	50	20	40	100	M42x3	11
1/3150	3150	250	57	110	27	45	15	90	150	125	30	60	20	40	120	M48x3	15

CONJUNTO PASATAPAS 3KV 250-630A DIN 42539

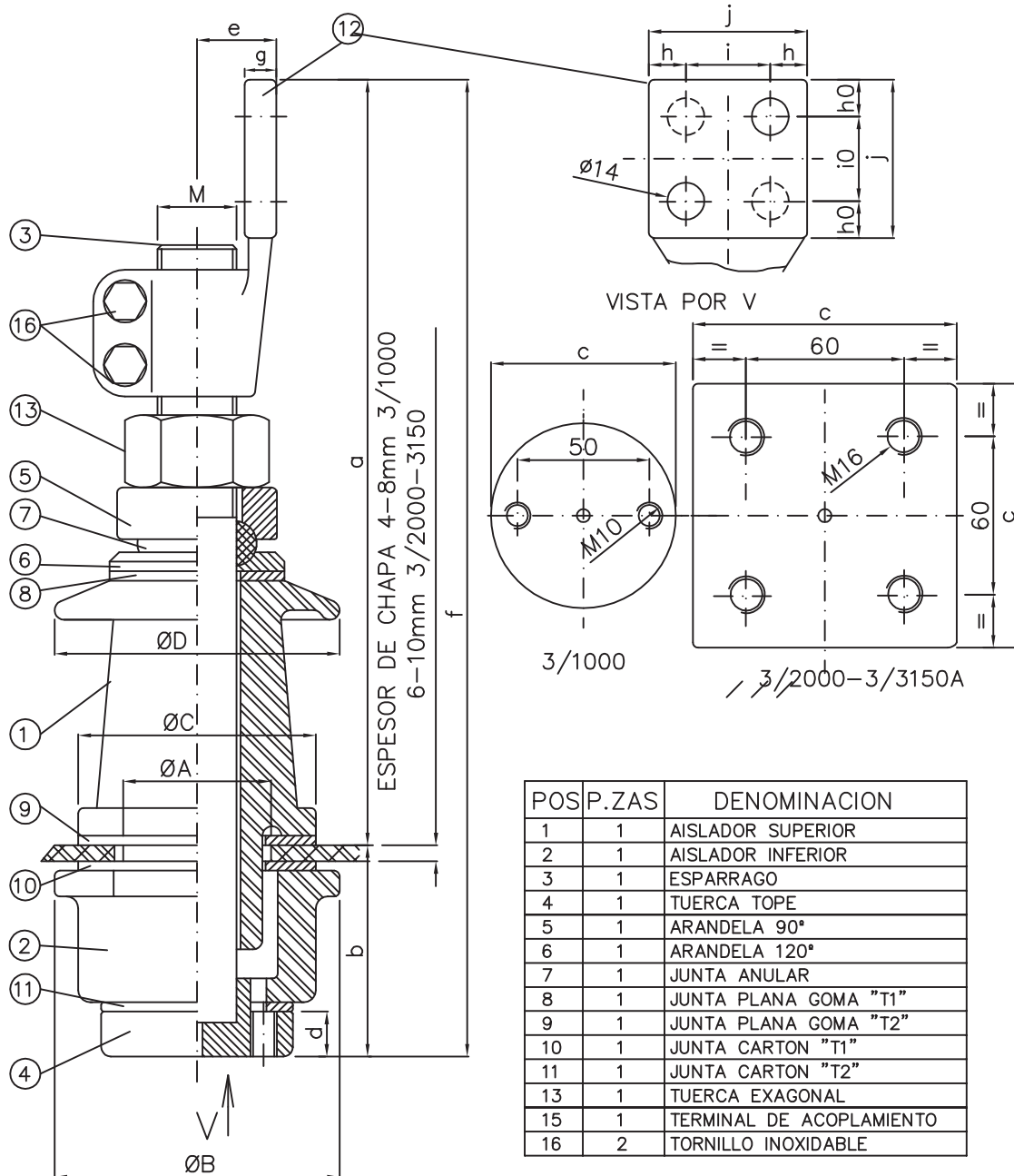
BUSHING WITH INSULATOR FOR TRANSFORMER 3KV 250-630A DIN 42539



POS	P.ZAS	DENOMINACION
1	1	AISLADOR SUPERIOR
2	1	AISLADOR INFERIOR
3	1	ESPARRAGO
4	1	TUERCA TOPE
5	1	ARANDELA 90°
6	1	ARANDELA 120°
7	1	JUNTA ANULAR
8	1	JUNTA PLANA GOMA "T1"
9	1	JUNTA PLANA GOMA "T2"
10	1	JUNTA CARTON "T1"
11	1	JUNTA CARTON "T2"
12	2	ARANDELA PLANA
13	3/5	TUERCA EXAGONAL
14	2/0	CONTRATUERCA EXAGONAL
17	1	ARANDELA GROWER

TIPO	Am	a	b	c	d	ØA	ØB	ØC	M	P
3 / 250	250	180	94	272	25	70	75	39	M12	1
3 / 630	630	210	110	318	37	85	90	45	M20	2.5

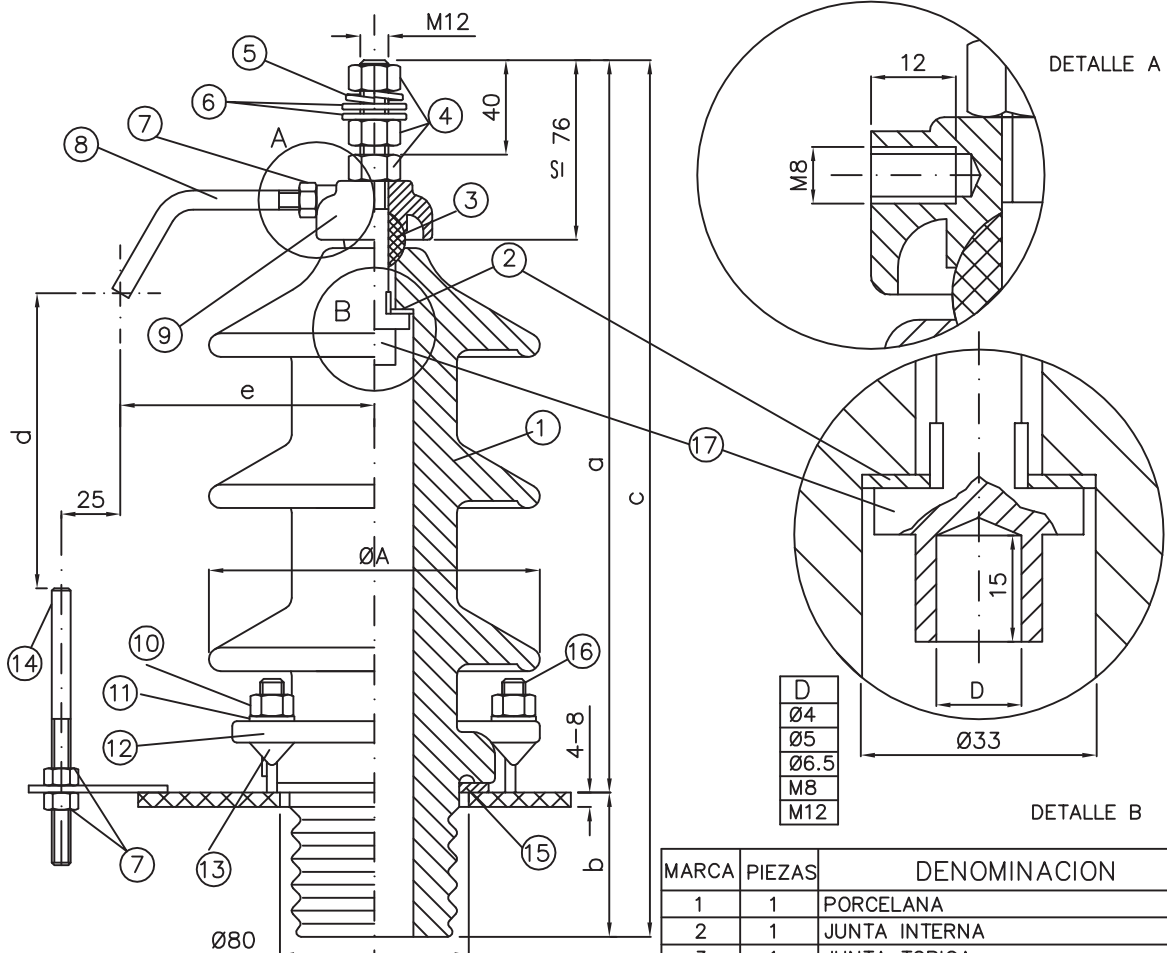
CONJUNTO PASATAPAS 3KV 1000-2000-3150A DIN 42539
BUSHING WITH INSULATOR FOR TRANSFORMER 3KV 1000-2000-3150A DIN 42539



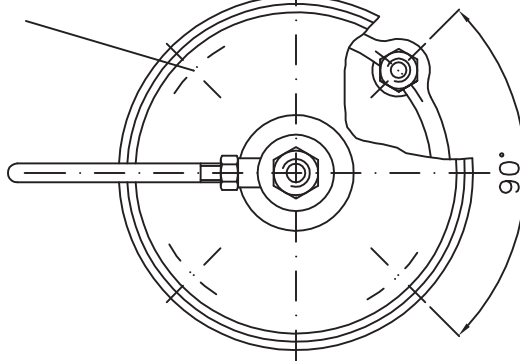
TIPO	Am	a	b	c	d	e	f	g	ØA	ØB	ØC	ØD	h	h0	i	i0	j	M	*
3 /1000	1250	294	80	70	17	28	370	10	56	110	90	110	17	17	26	26	60	M30x2	6
3 /2000	2000	372	86	100	22	40	460	15	70	125	104	125	25	20	50	40	100	M42x3	13
3 /3150	3150	404	92	110	27	45	495	15	90	150	125	145	30	20	60	40	120	M48x3	18

CONJUNTO PASATAPAS 10-20-30KV 250A DIN 42533

BUSHING WITH INSULATOR FOR TRANSFORMER 10-20-30KV 250A DIN 42533



4 VASTAGOS M10 x 58 EN Ø123



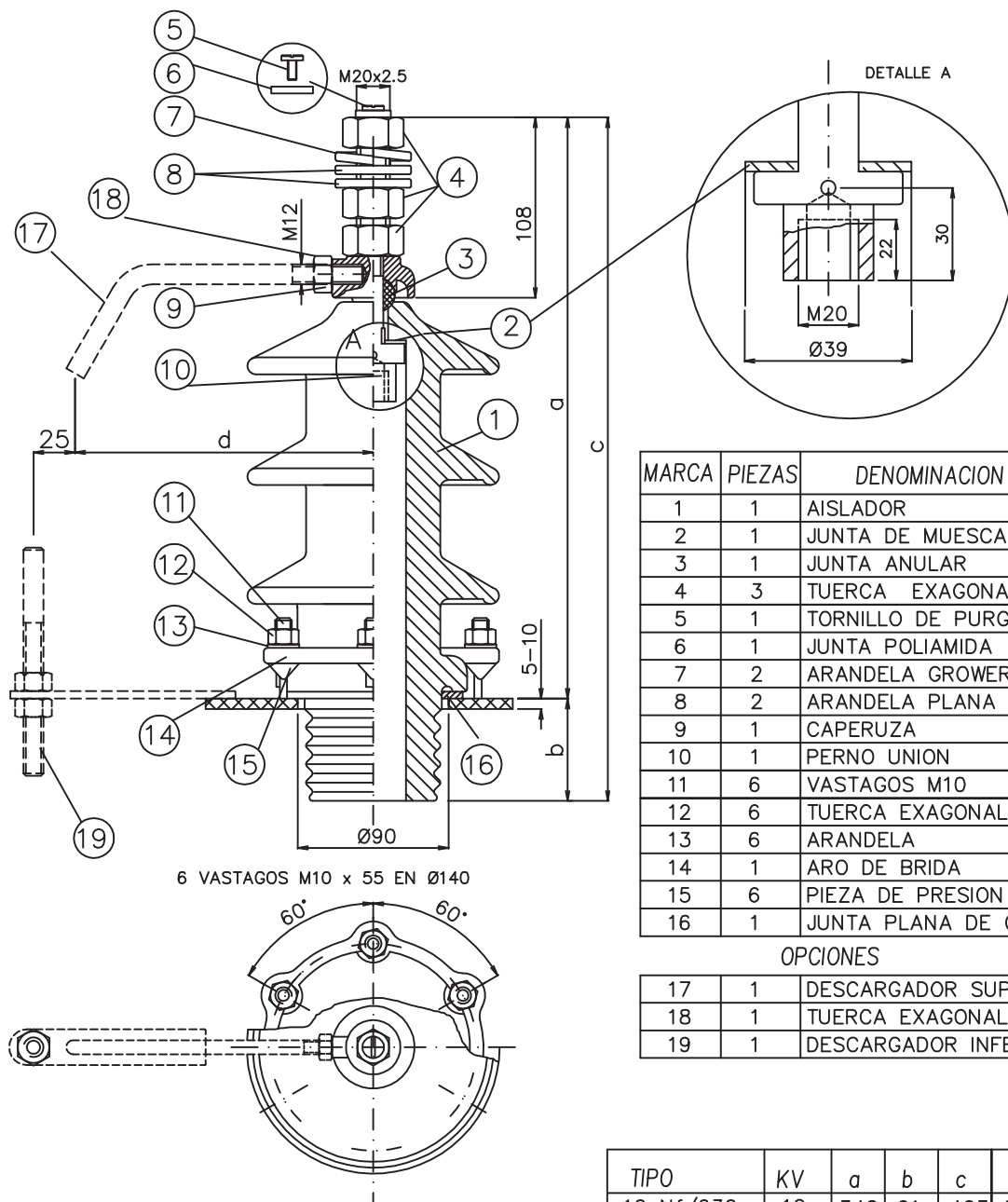
MARCA	PIEZAS	DENOMINACION
	1	PORCELANA
	2	JUNTA INTERNA
	3	JUNTA TORICA
	4	TUERCAS M12 DE LATON DIN 934
	5	ARANDELA GROWER Ø13
	6	ARANDELA DE LATON Ø13
	7	TUERCA ACERO M8 DIN 934
	8	TOPE SUPERIOR
	9	CASQUILLO DE LATON
	10	TUERCA ACERO M10 DIN 934
	11	ARANDELA DE ACERO Ø10.5
	12	ANILLA DE FIJACION
	13	SUJECCION
	14	TOPE INFERIOR
	15	JUNTA DEL BORDE
	16	VASTAGOS M10
	17	PERNO DE CIERRE (LATON)

◇ LINEA DE FUGA (mm) * PESO (Kg) © VOLUMEN (dm)³ § N° DE ALETAS

TIPO	Am	KV	a	b	c	d	e	ØA	◇	*	©	§
10 Nf/250	250	12	310	61	371	70	150	140	290	4.5	10	2
20 Nf/250	250	24	385	76	461	100	150	155	440	6.1	15	3
30 Nf/250	250	36	485	76	561	200	150	155	580	7.5	28	4

CONJUNTO PASATAPAS 10-20-30KV 630A DIN 42533

BUSHING WITH INSULATOR FOR TRANSFORMER 10-20-30KV 630A DIN 42533



MARCA	PIEZAS	DENOMINACION
	1	AISLADOR
	2	JUNTA DE MUESCAS
	3	JUNTA ANULAR
	4	TUERCA EXAGONAL
	5	TORNILLO DE PURGA
	6	JUNTA POLIAMIDA
	7	ARANDELA GROWER
	8	ARANDELA PLANA
	9	CAPERUZA
	10	PERNO UNION
	11	VASTAGOS M10
	12	TUERCA EXAGONAL M10
	13	ARANDELA
	14	ARO DE BRIDA
	15	PIEZA DE PRESION
	16	JUNTA PLANA DE GOMA

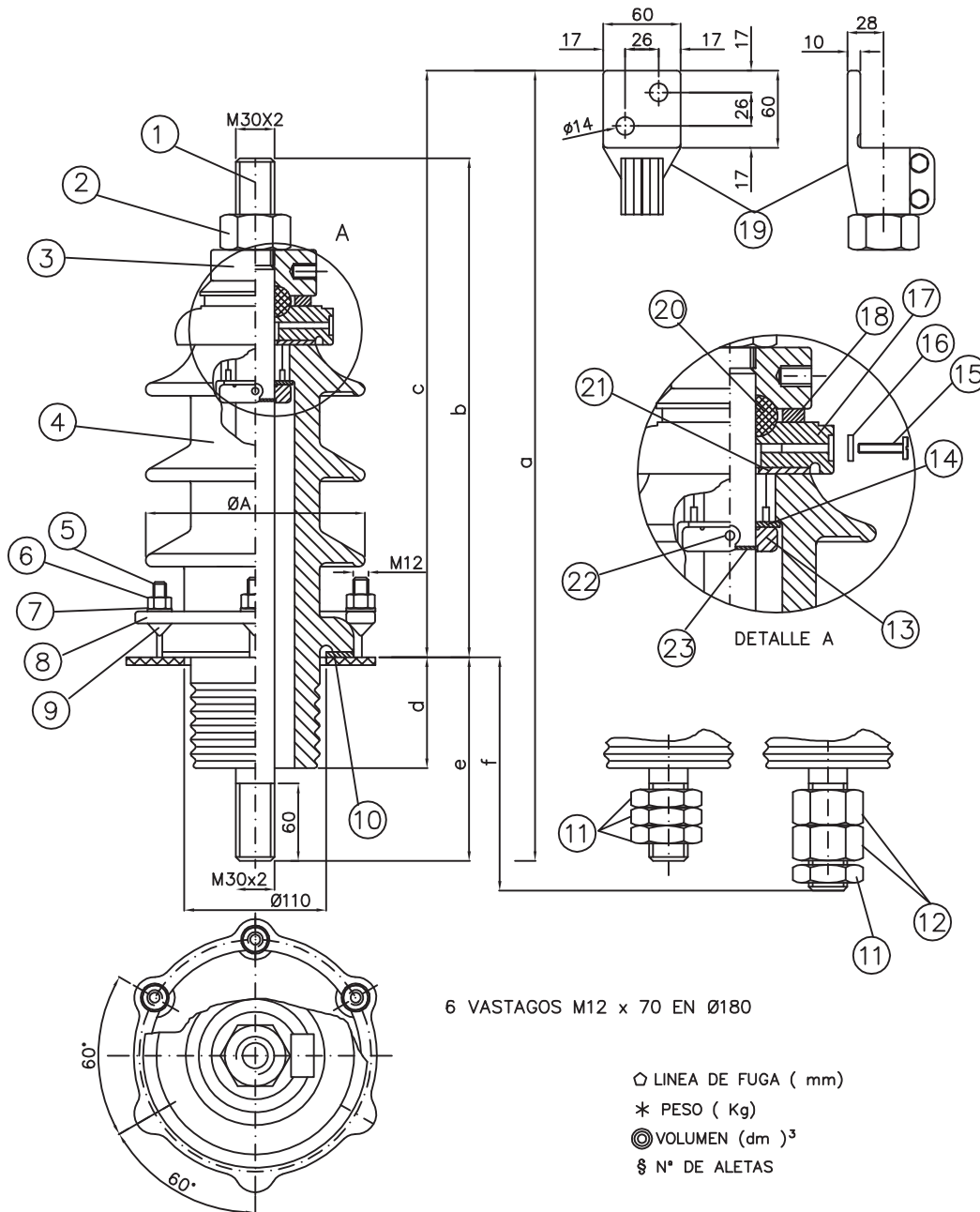
OPCIONES

	17	1	DESCARGADOR SUPERIOR
	18	1	TUERCA EXAGONAL M12
	19	1	DESCARGADOR INFERIOR

TIPO	KV	a	b	c	d	ØA
10 Nf/630	12	342	61	403	180	150
20 Nf/630	24	422	76	498	180	165
30 Nf/630	36	527	96	623	200	180

CONJUNTO PASATAPAS 10-20-30KV 1000A DIN 42533

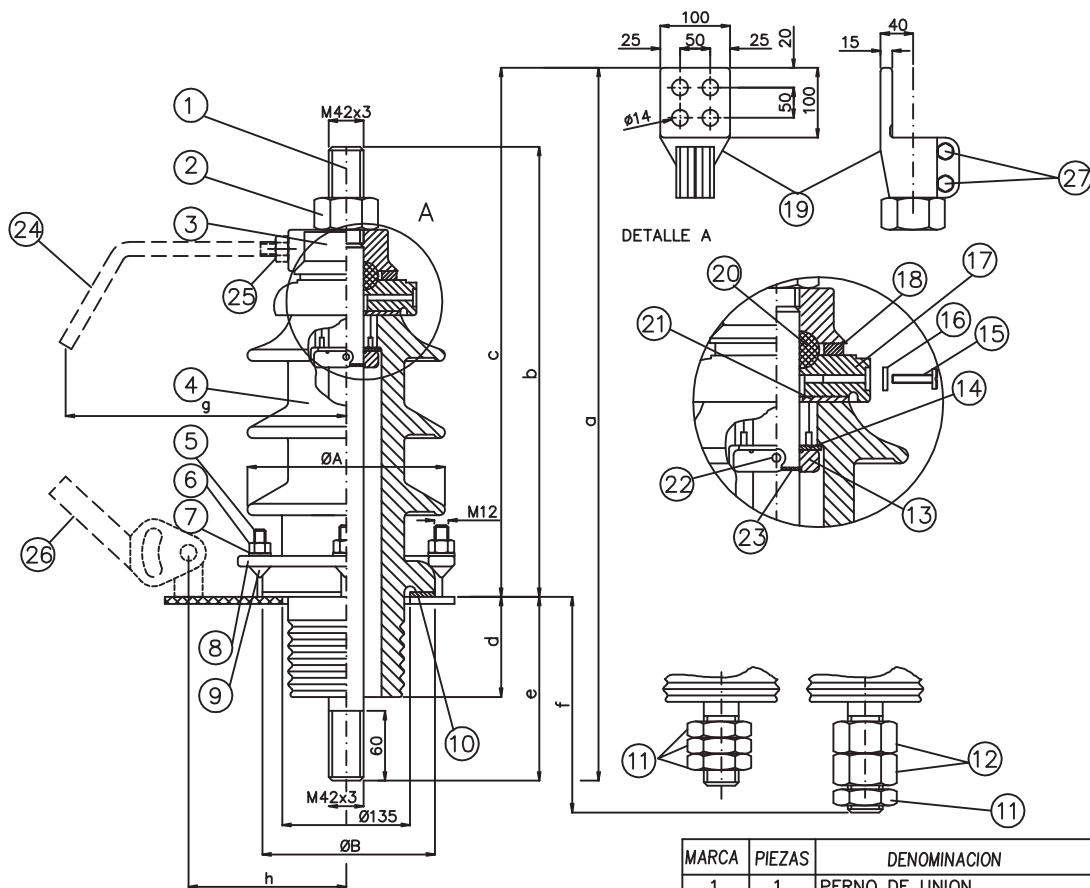
BUSHING WITH INSULATOR FOR TRANSFORMER 10-20-30KV 1000A DIN 42533



TIPO	Am	KV	a	b	c	d	e	f	ØA	◇	*	◎	§
10 F/1000	630	12	613	387	455	86	158	181	170	290	15	55	2
20 F/1000	630	24	698	462	530	96	168	191	185	440	18	60	3
30 F/1000	630	36	833	567	635	121	198	216	200	640	22	80	4

CONJUNTO PASATAPAS 10-20-30KV 2000A DIN 42533

BUSHING WITH INSULATOR FOR TRANSFORMER 10-20-30KV 2000A DIN 42533



6 VASTAGOS M12 x 65 EN Ø200

TIPO	KV	a	b	c	d	e	f	g	h	ØA	ØB
10 NF/2000	12	688	417	530	86	158	212	230	148	190	183
20 NF/2000	24	773	492	605	96	168	222	230	148	210	183
30 NF/2000	36	908	597	710	121	198	247	290	148	230	183

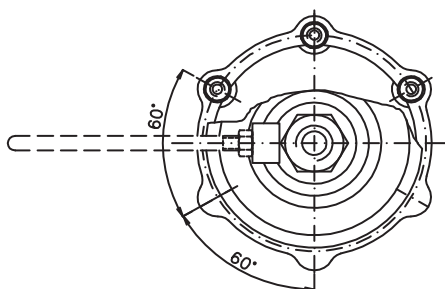
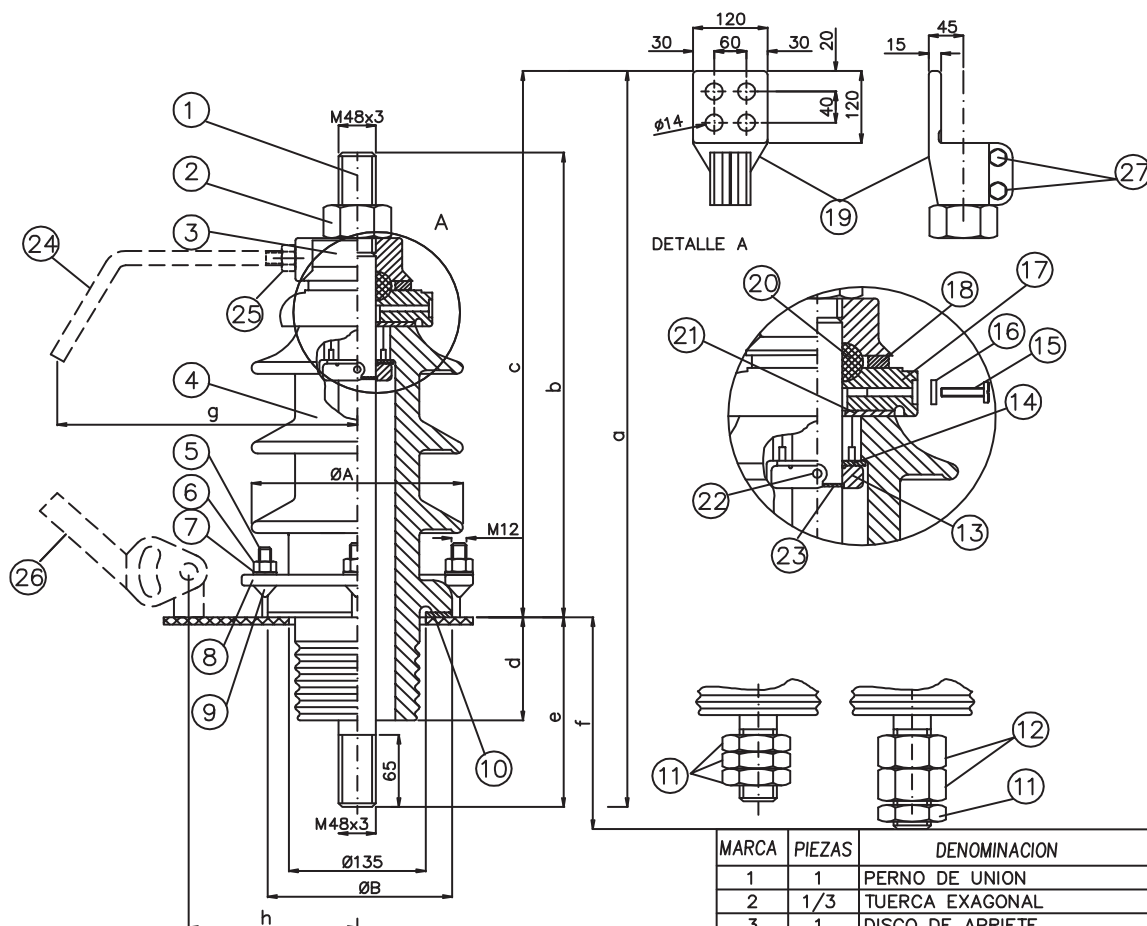
MARCA	PIEZAS	DENOMINACION
1	1	PERNO DE UNION
2	1/3	TUERCA EXAGONAL
3	1	DISCO DE APRIETE
4	1	AISLADOR
5	6	VASTAGO M12
6	6	TUERCA EXAGONAL M12
7	6	ARANDELA
8	1	ARO DE BRIDA
9	6	PIEZA DE PRESION
10	1	JUNTA PLANA DE GOMA
13	1	ANILLO DE PRESION
14	1	JUNTA DE MUESCAS
15	1	TORNILLO
16	1	ARANDELA
17	1	CAPERUZA
18	1	ARANDELA DE CONTACTO
19	1	TERMINAL DE ACOPLAMIENTO
20	1	JUNTA ANULAR
21	1	JUNTA PLANA
22	1	VARILLA ROSCADA M8x15
23	1	ANILLA
27	2	TORNILLO M12x50 A. INOX.

OPCIONES

11	3/1	CONTRATUERCA M42
12	0/2	TUERCA EXAGONAL M42
24	1	DESCARGADOR SUPERIOR
25	1	TUERCA EXAGONAL M20
26	1	DESCARGADOR INFERIOR

CONJUNTO PASATAPAS 10-20-30KV 3150A DIN 42533

BUSHING WITH INSULATOR FOR TRANSFORMER 10-20-30KV 3150A DIN 42533



6 VASTAGOS M12 x 65 EN Ø200

TIPO	KV	a	b	c	d	e	f	g	h	ØA	ØB
10 NF/3150	12	718	422	560	86	158	226	235	148	190	183
20 NF/3150	24	803	497	635	96	168	236	235	148	210	183
30 NF/3150	36	938	602	740	121	198	261	295	148	230	183

MARCA	PIEZAS	DENOMINACION
	1	PERNO DE UNION
	1/3	TUERCA EXAGONAL
	3	DISCO DE APRIETE
	4	AISLADOR
	5	6 VASTAGO M12
	6	TUERCA EXAGONAL M12
	7	6 ARANDELA
	8	1 ARO DE BRIDA
	9	6 PIEZA DE PRESION
	10	1 JUNTA PLANA DE GOMA
	13	1 ANILLO DE PRESION
	14	1 JUNTA DE MUESCAS
	15	1 TORNILLO
	16	1 ARANDELA
	17	1 CAPERUZA
	18	1 ARANDELA DE CONTACTO
	19	1 TERMINAL DE ACOPLAMIENTO
	20	1 JUNTA ANULAR
	21	1 JUNTA PLANA
	22	1 VARILLA ROSCADA M8x15
	23	1 ANILLA
	27	2 TORNILLO M12x65 A. INOX.

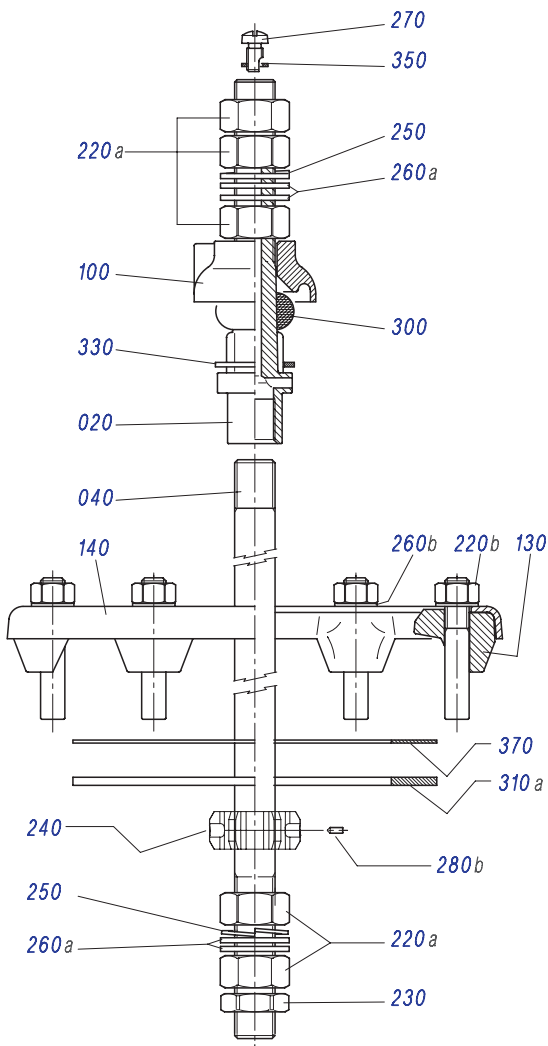
OPCIONES

11	3/1	CONTRATUERCA M48
12	0/2	TUERCA EXAGONAL M48
24	1	DESCARGADOR SUPERIOR
25	1	TUERCA EXAGONAL M20
26	1	DESCARGADOR INFERIOR

52kV 250A

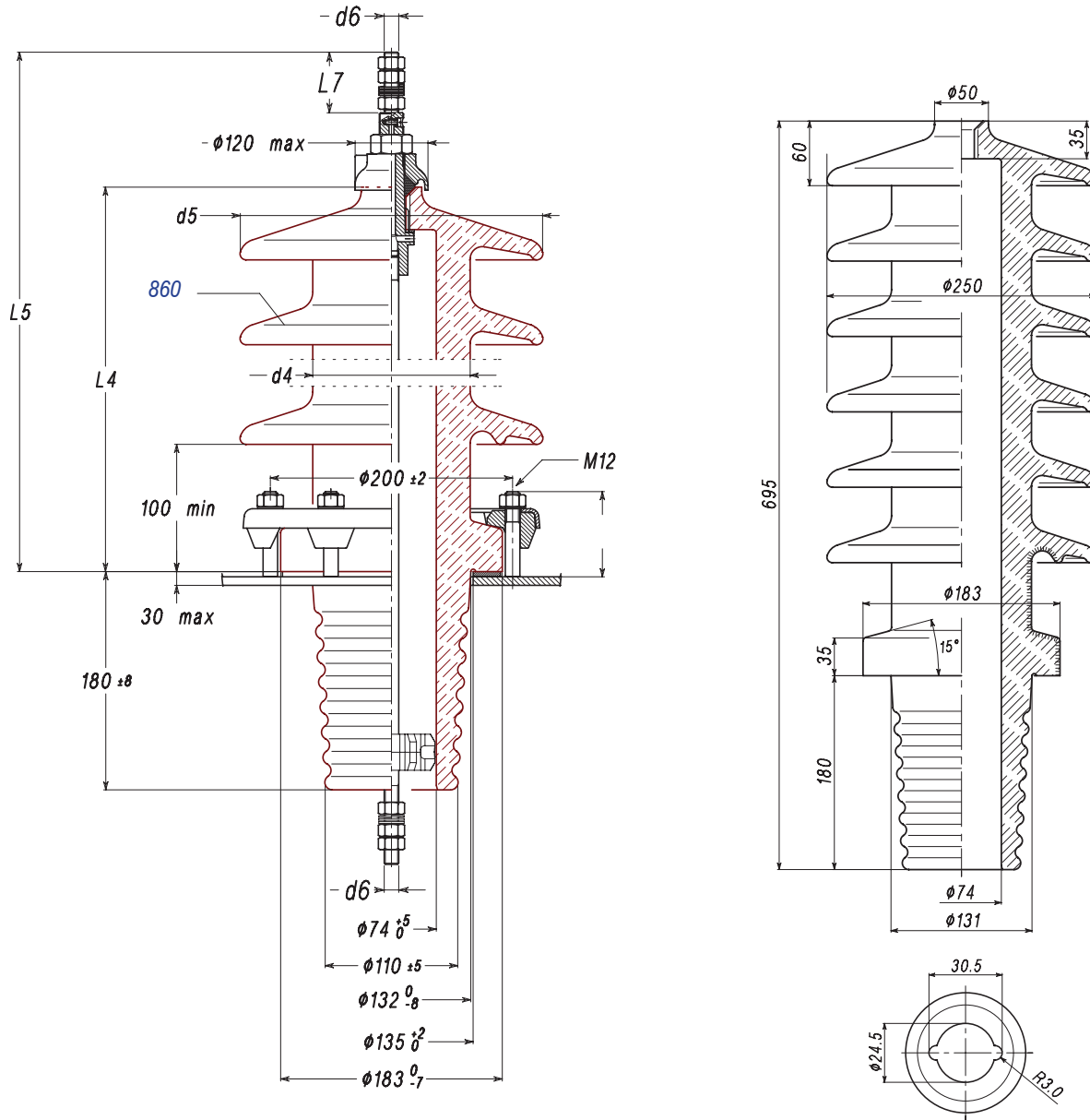
Transformer bushing insulators DIN 42534, EN50180 • 52 KV - 250

CODE	A69020000
CLASS	250 A - 630 A
Draw. refer.	1
Creepage distance mm	1040
Arcing distance mm	410
Rated voltage kV	52
Lightning impulse withstand voltage	250
Power frequency withstand voltage, wet kV	95
Weight(gr.)	23000



Pos.refer.	Q.ty	Description
020	1	Clamping threaded bolt
040	1	Lower threaded bolt
100	1	Cap
130	6	Jam
140	1	Fixing ring
220 a	4	Nut
220 b	6	Nut
230	1	Nut
240	1	Centering ring
250	3	Elastic washer
260 a	4	Flat washer
260 b	6	Flat washer
270	1	Exhaust screw
280b	1	Grub screw
300	1	Half-round gasket
310 a	1	Flat gasket
330b	1	Shaped gasket
350	1	PTFE gasket
370	1	Adjusting ring

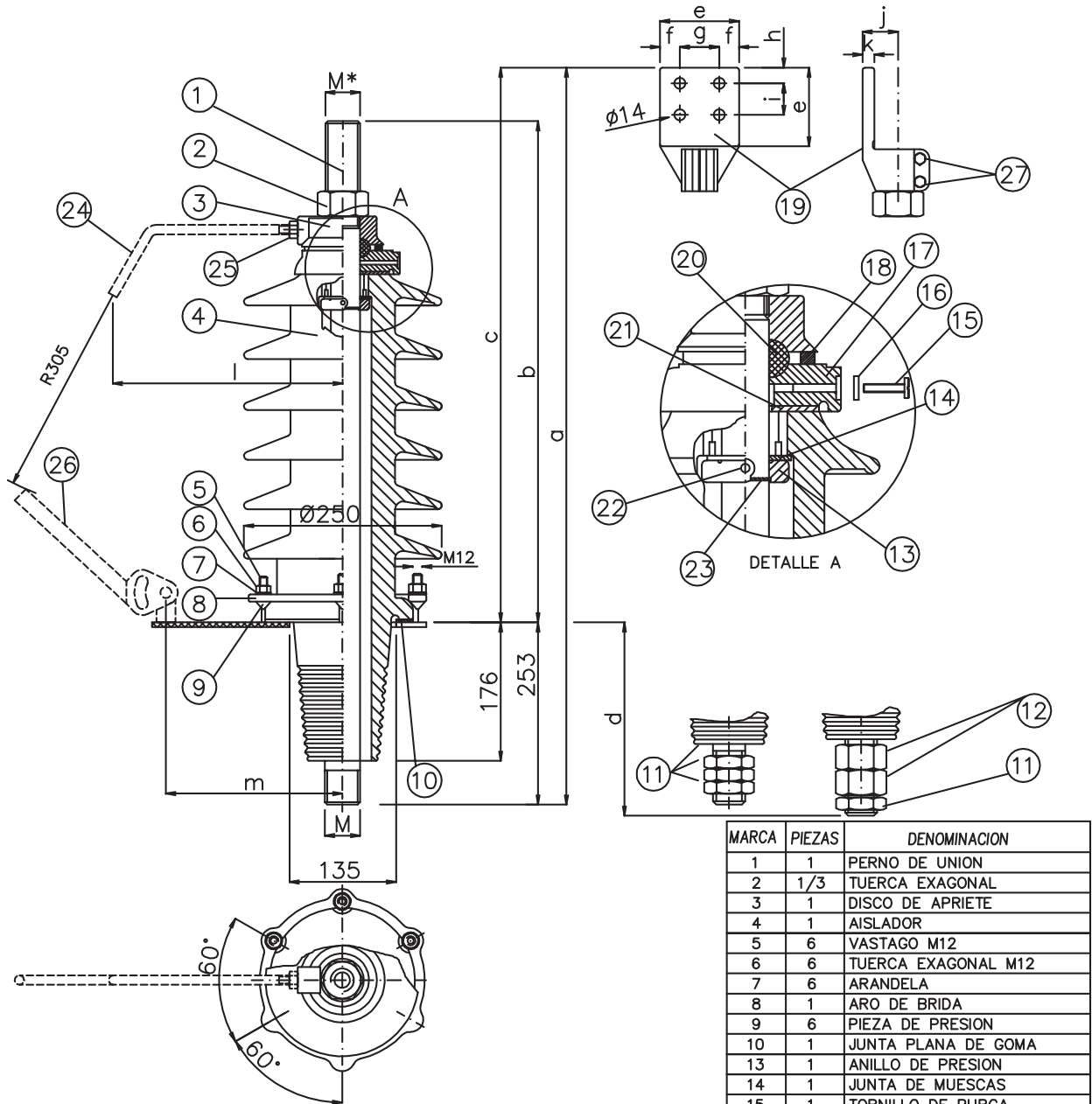
52kV 250A



Designazione Designation	Ur (kV)	Min. nominal creepage distance Pollution level				Distanza d'arco Arcing distance	L4 max	L5 max	L7 max	d4 max	d5 max	d6 max
		I	II	III	IV							
52/250/P1	52	832	-	-	-	480	505	660	60	136	259	M12

CONJUNTO PASATAPAS 52KV 1000-3150A DIN 42534

BUSHING WITH INSULATOR FOR TRANSFORMER 52KV 1000-3150A DIN 42534



6 VASTAGOS M12 x 70 EN Ø200

TIPO	a	b	c	d	e	f	g	h	i	j	k	M
52-1000	978	657	725	270	60	17	26	17	26	28	10	M30x2
52-2000	1053	687	800	302	100	25	50	20	40	40	15	M42x3
52-3150	1083	692	830	316	120	30	60	20	40	45	15	M48x3

TIPO	l	m
52-1000	350	175
52-2000	350	175
52-3150	355	180

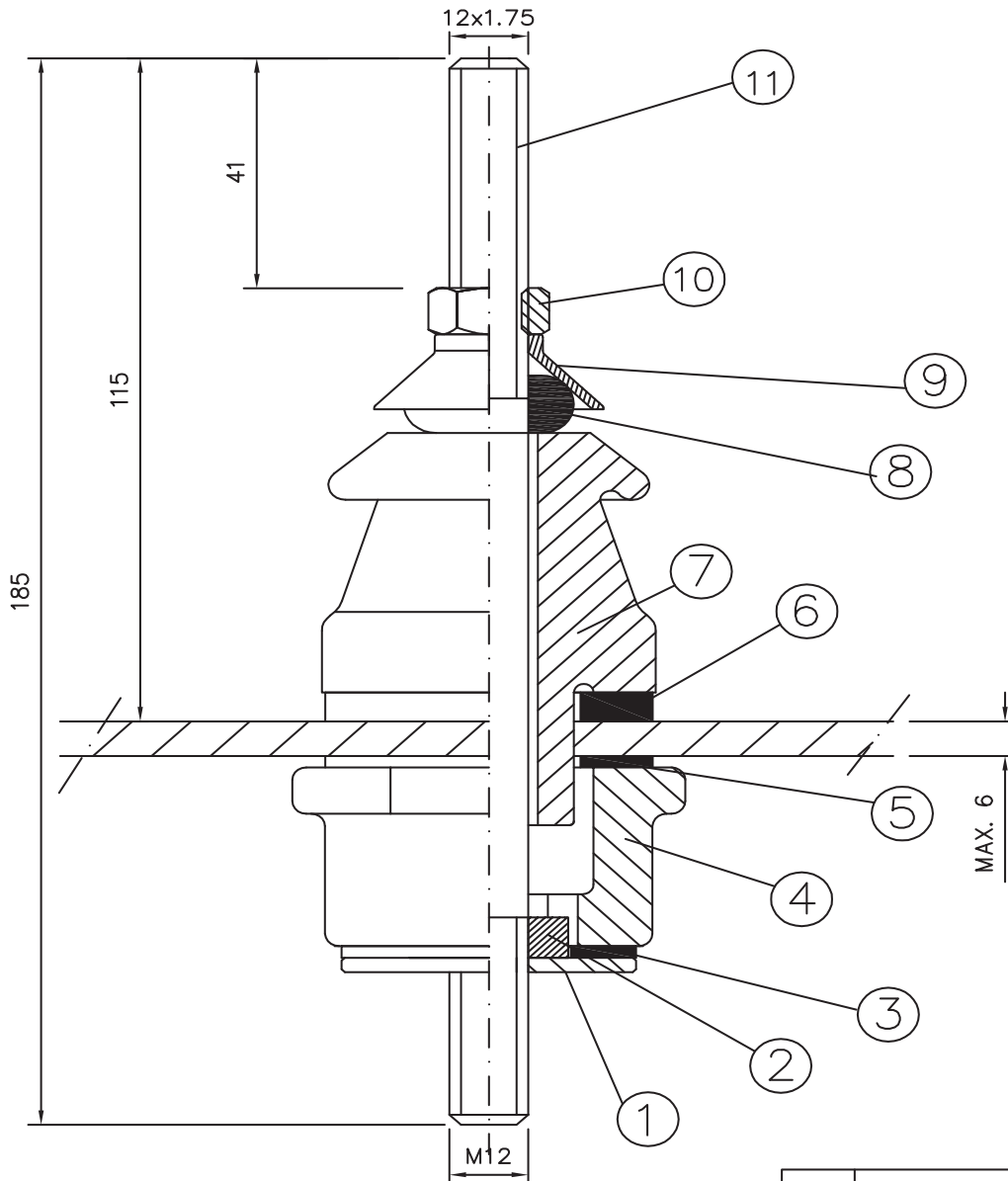
MARCA	PIEZAS	DENOMINACION
1	1	PERNO DE UNION
2	1/3	TUERCA EXAGONAL
3	1	DISCO DE APRIETE
4	1	AISLADOR
5	6	VASTAGO M12
6	6	TUERCA EXAGONAL M12
7	6	ARANDELA
8	1	ARO DE BRIDA
9	6	PIEZA DE PRESION
10	1	JUNTA PLANA DE GOMA
13	1	ANILLO DE PRESION
14	1	JUNTA DE MUESCAS
15	1	TORNILLO DE PURGA
16	1	ARANDELA
17	1	CAPERUZA
18	1	ARANDELA DE CONTACTO
19	1	TERMINAL DE ACOPLAMIENTO
20	1	JUNTA ANULAR
21	1	JUNTA PLANA
22	1	VARRILLA ROSCADA M8x15
23	1	ANILLA
27	2	TORNILLO M12x65 A. INOX.

OPCIONES

11	3/1	CONTRATUERCA M*
12	0/2	TUERCA EXAGONAL M*
24	1	DESCARGADOR SUPERIOR
25	1	TUERCA EXAGONAL M20
26	1	DESCARGADOR INFERIOR

CONJUNTO PASATAPAS 250A BT M12 EN 50386

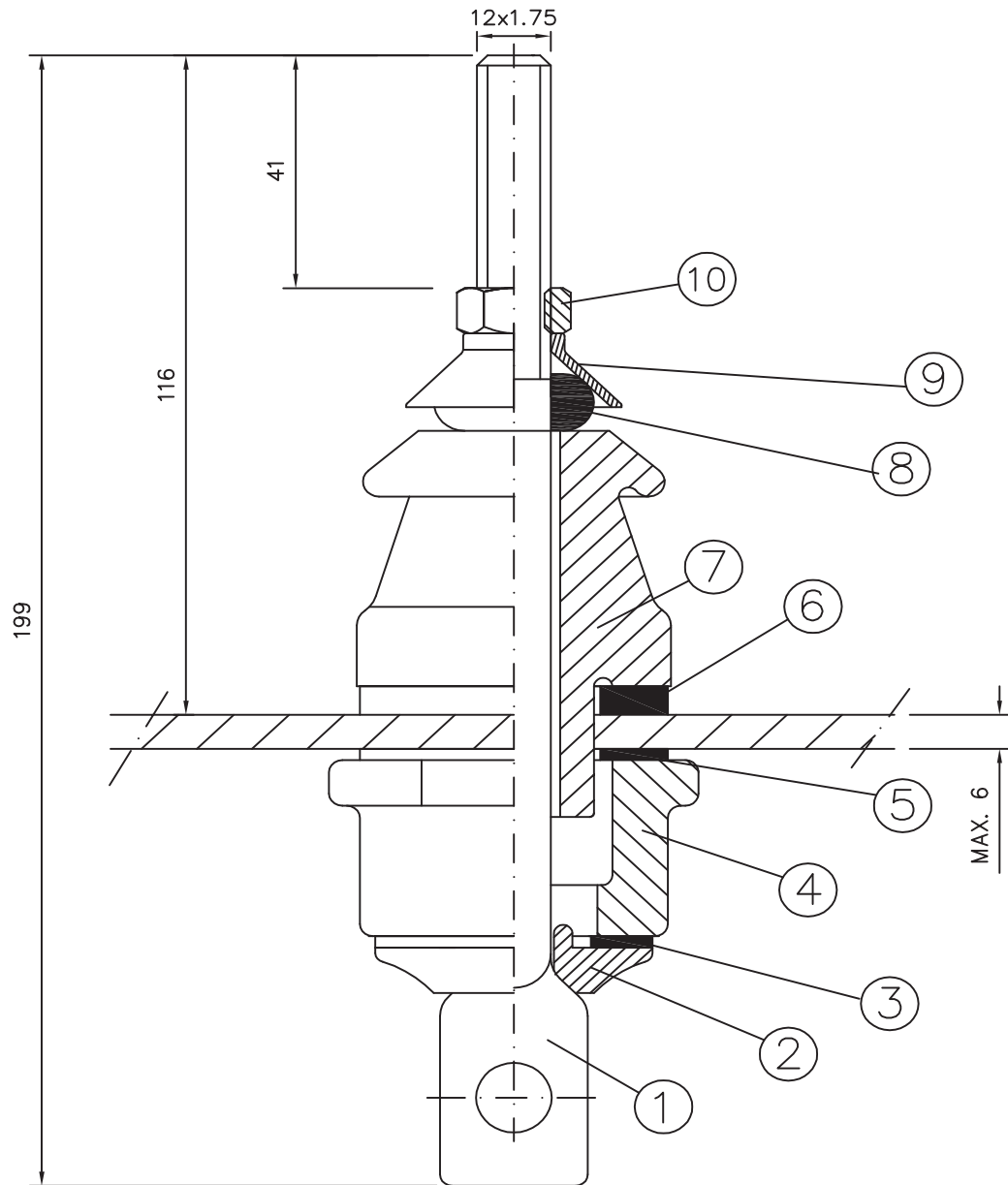
BUSHING WITH INSULATOR FOR TRANSFORMER 250A BT M12 EN 50386



MARCA	DENOMINACION	MATERIAL
1	PIEZA TOPE	LATON
2	TUERCA TOPE	LATON
3	ASIENTO	CARTON
4	ASLANTE INFERIOR	CERAMICA
5	ASIENTO	CARTON
6	JUNTA PLANA	GOMA NBR
7	ASLANTE SUPERIOR	CERAMICA
8	JUNTA ANULAR	GOMA NBR
9	CAPERUZA	LATON
10	TUERCA EXAGONAL	LATON
11	PERNO DE UNION	LATON

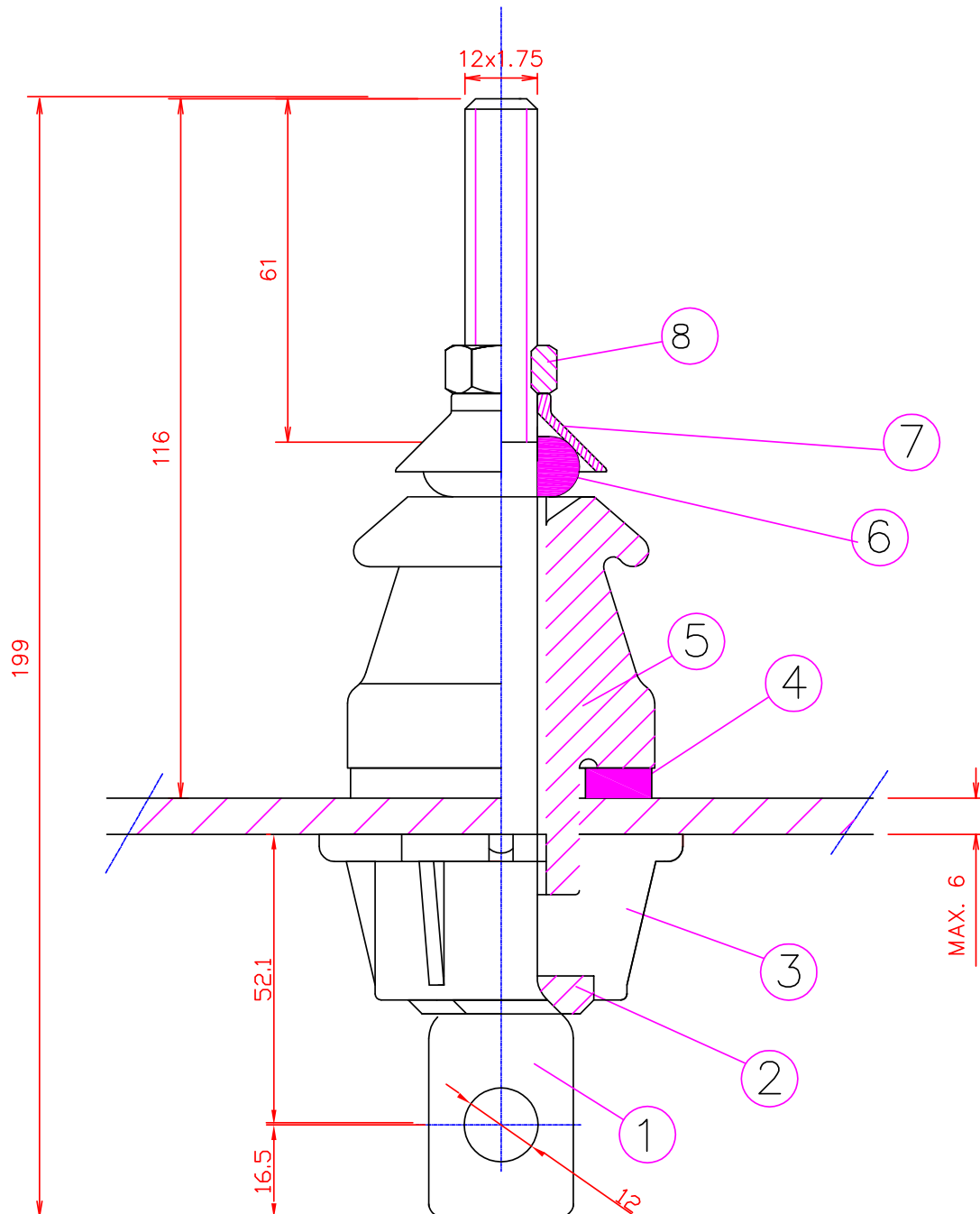
CONJUNTO PASATAPAS 250A BT M12 AP 50386

BUSHING WITH INSULATOR FOR TRANSFORMER 250A BT M12 AP 50386



MARCA	DENOMINACION	MATERIAL
1	PERNO DE UNION	LATON
2	PIEZA TOPE	LATON
3	ASIENTO	CARTON
4	ASLANTE INFERIOR	CERAMICA
5	ASIENTO	CARTON
6	JUNTA PLANA	GOMA NBR
7	ASLANTE SUPERIOR	CERAMICA
8	JUNTA ANULAR	GOMA NBR
9	CAPERUZA	LATON
10	TUERCA EXAGONAL	LATON

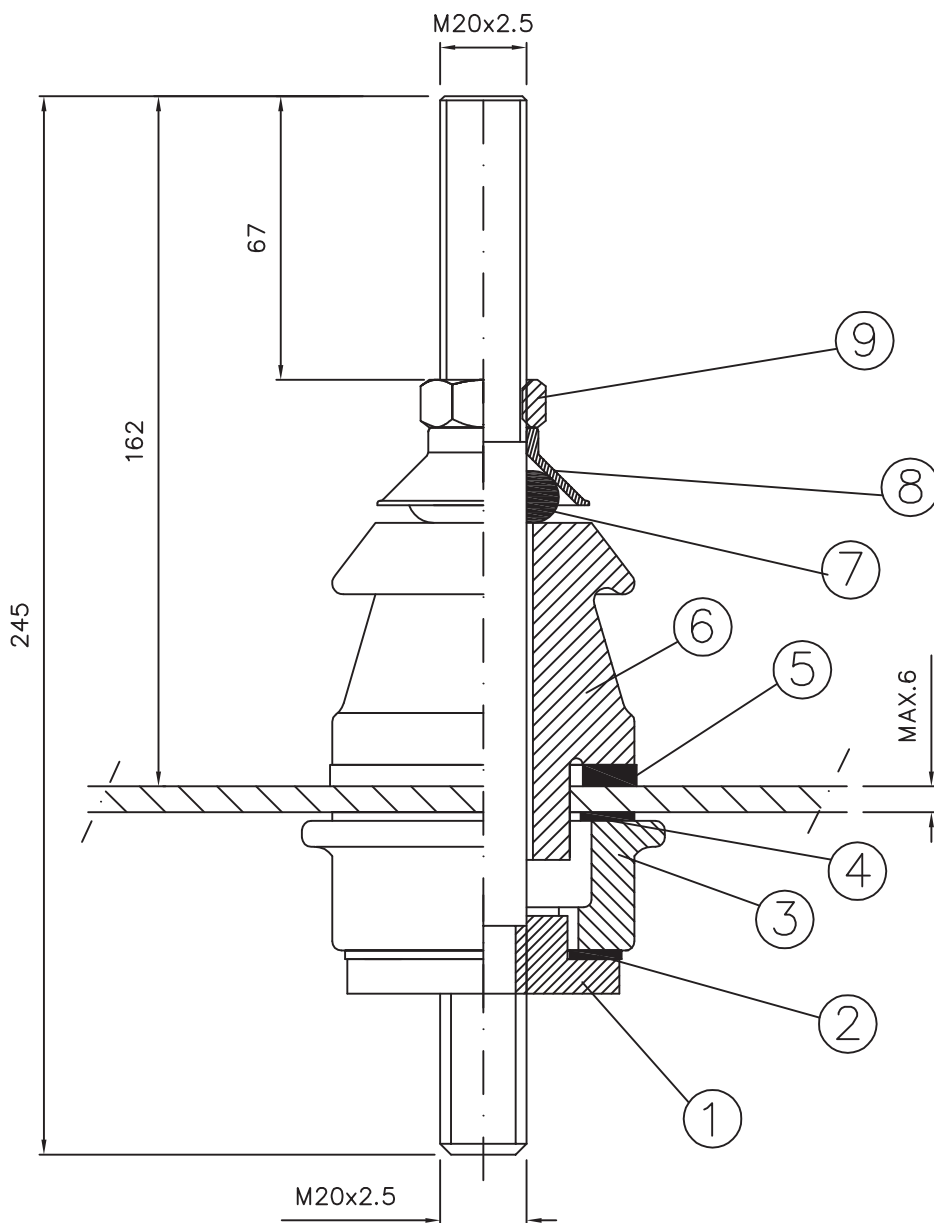
CONJUNTO PASATAPAS 250 BT M12 AP EN 50386 POLIMÉRICO
BUSHING WITH INSULATOR FOR TRANSFORMER 250 BT M12 AP EN
50386 POLYMERIC



5	AISLANTE SUPERIOR	CERAMICA					
4	JUNTA PLANA	GOMA NBR					
3	AISLANTE INFERIOR	POLIMERO		8	TUERCA EXAGONAL	LATON	
2	PIEZA TOPE	LATON		7	CAPERUZA	LATON	
1	PERNO DE UNION	LATON		6	JUNTA ANULAR	GOMA NBR	
MARCA	DENOMINACION	MATERIAL	REFERENCIA	MARCA	DENOMINACION	MATERIAL	REFERENCIA

CONJUNTO PASATAPAS 630A BT M20 EN 50386

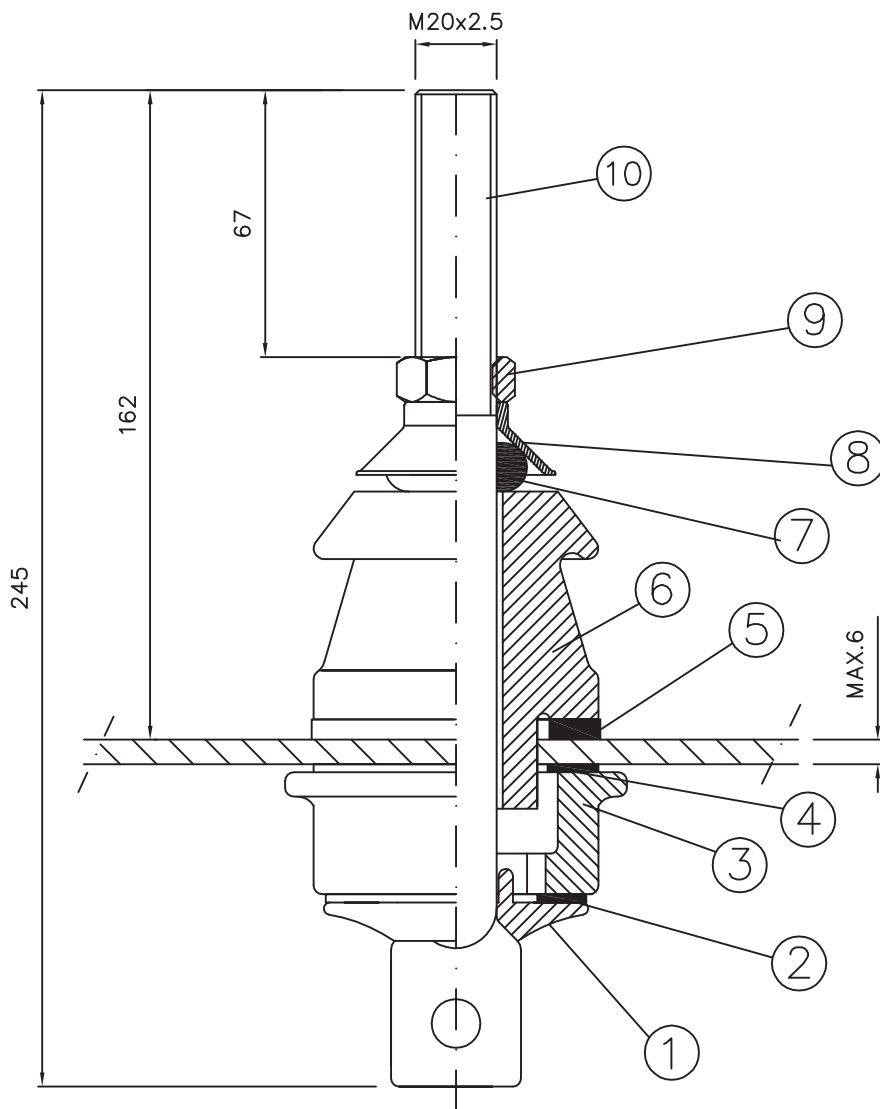
BUSHING WITH INSULATOR FOR TRANSFORMER 630A BT M20 EN 50386



MARCA	DENOMINACION	MATERIAL
1	PERNO DE UNION	LATON
2	ASIENTO	CARTON
3	AISLANTE INFERIOR	CERAMICA
4	ASIENTO	CARTON
5	JUNTA PLANA	GOMA NBR
6	AISLANTE SUPERIOR	CERAMICA
7	JUNTA ANULAR	GOMA NBR
8	CAPERUZA	LATON
9	TUERCA EXAGONAL	LATON

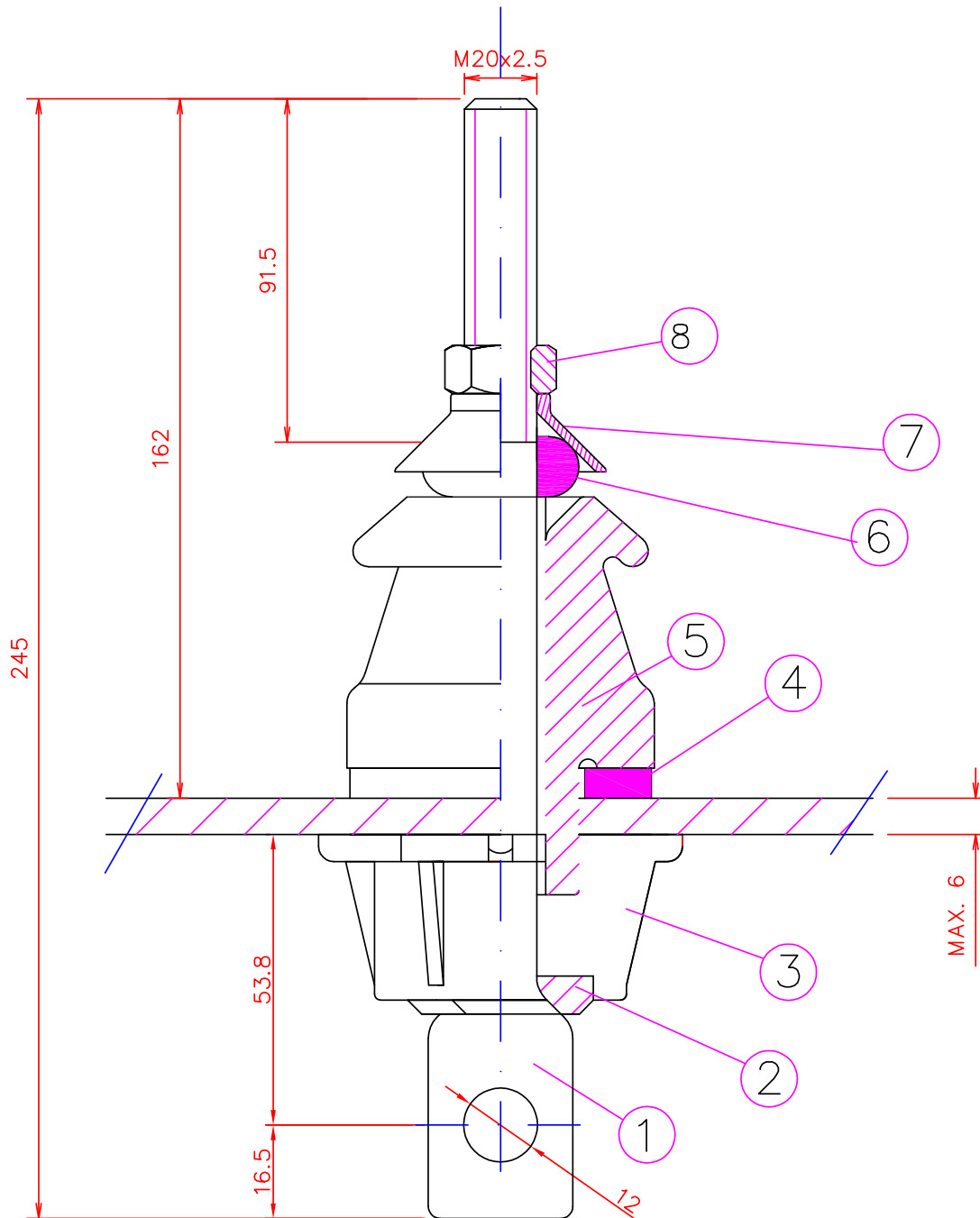
CONJUNTO PASATAPAS 630A BT M20 AP 50386

BUSHING WITH INSULATOR FOR TRANSFORMER 630A BT M20 AP 50386



MARCA	DENOMINACION	MATERIAL
1	PIEZA TOPE	LATON
2	ASIENTO	CARTON
3	AISLANTE INFERIOR	CERAMICA
4	ASIENTO	CARTON
5	JUNTA PLANA	GOMA NBR
6	AISLANTE SUPERIOR	CERAMICA
7	JUNTA ANULAR	GOMA NBR
8	CAPERUZA	LATON
9	TUERCA EXAGONAL	LATON
10	PERNO DE UNION	LATON

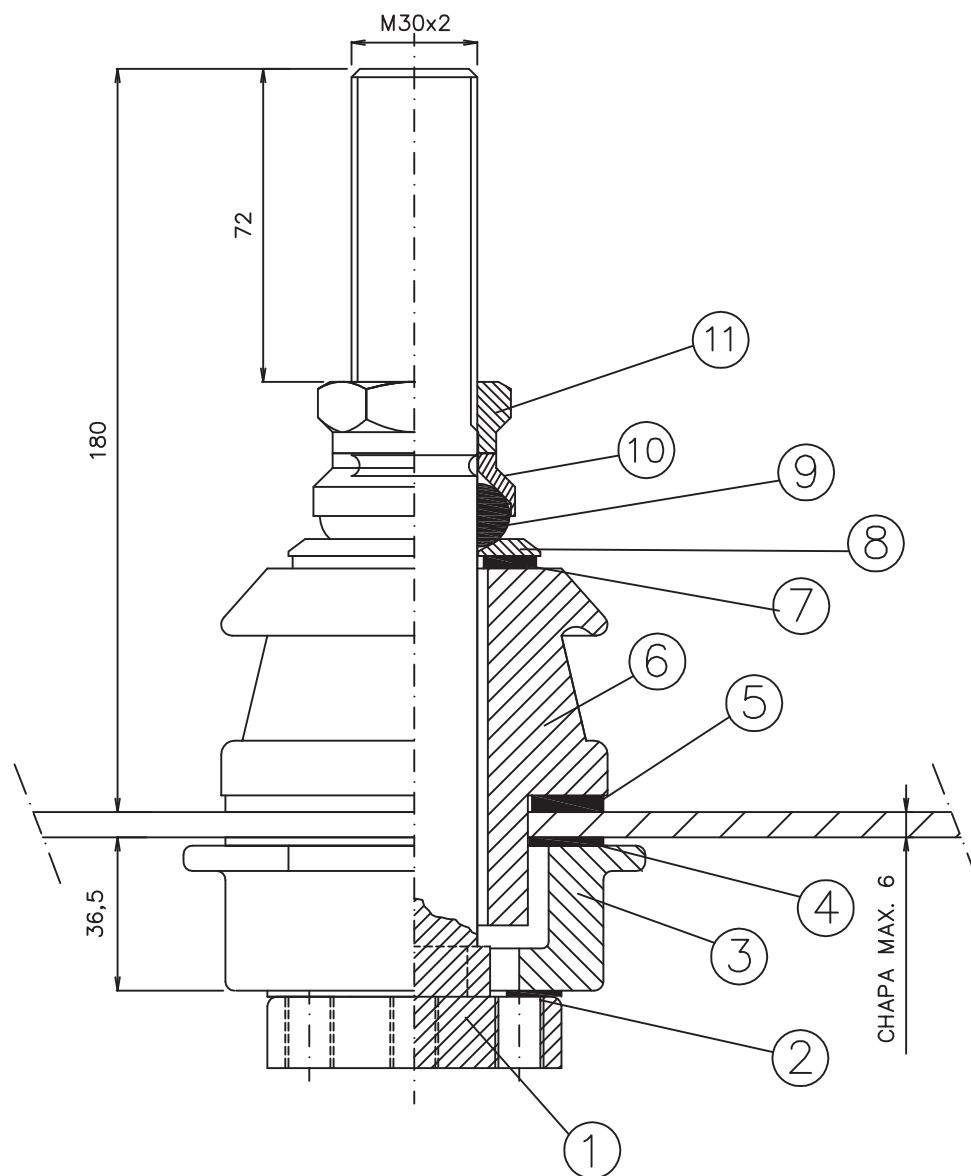
CONJUNTO PASATAPAS 630 BT M20 AP EN 50386 POLIMÉRICO
BUSHING WITH INSULATOR FOR TRANSFORMER 630 BT M20 AP EN
50386 POLYMERIC



5	AISLANTE SUPERIOR	CERAMICA					
4	JUNTA PLANA	GOMA NBR					
3	AISLANTE INFERIOR	POLIMERO		8	TUERCA EXAGONAL	LATON	
2	PIEZA TOPE	LATON		7	CAPERUZA	LATON	
1	PERNO DE UNION	LATON		6	JUNTA ANULAR	GOMA NBR	
MARCA	DENOMINACION	MATERIAL	REFERENCIA	MARCA	DENOMINACION	MATERIAL	REFERENCIA

CONJUNTO PASATAPAS 1000A BT M30 EN 50386

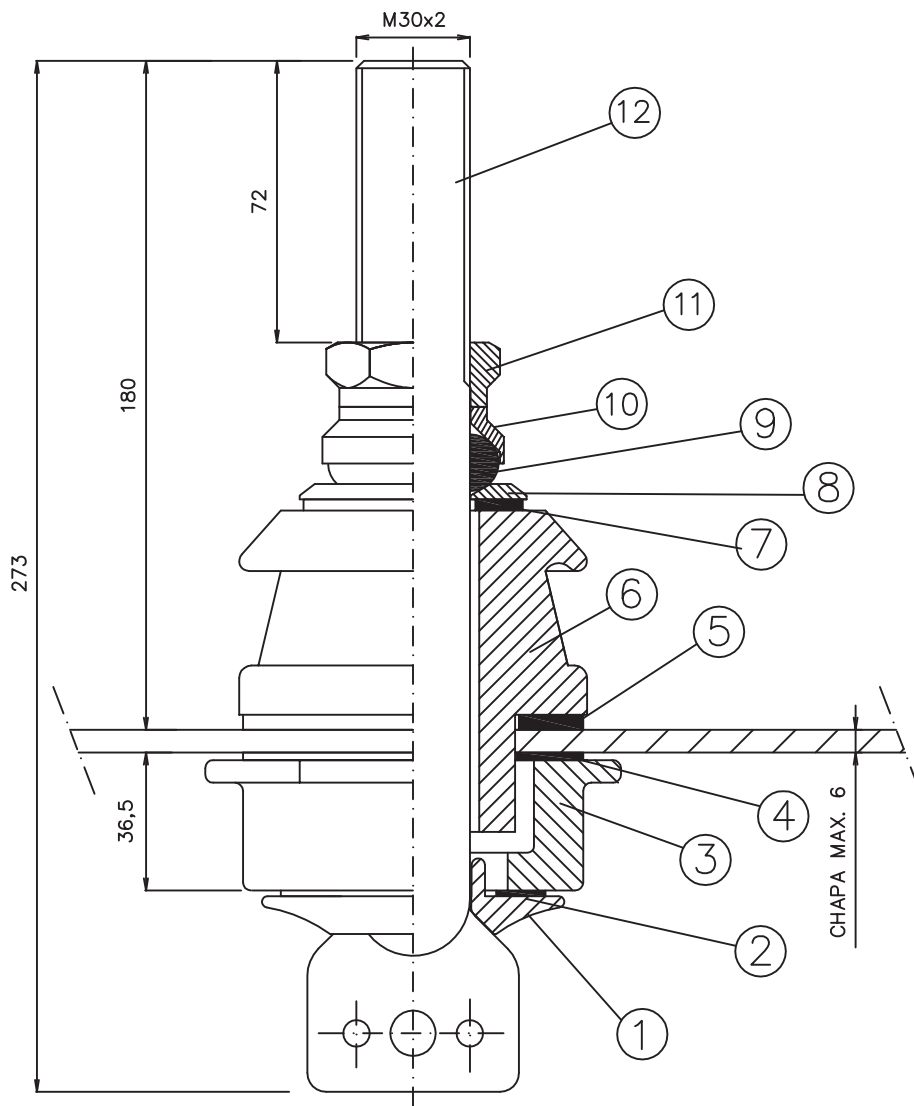
BUSHING WITH INSULATOR FOR TRANSFORMER 1000A BT M30 EN 50386



MARCA	DENOMINACION	MATERIAL
1	PERNO DE UNION	LATON
2	ASIENTO	CARTON
3	AISLANTE INFERIOR	CERAMICA
4	ASIENTO	CARTON
5	JUNTA PLANA	GOMA NBR
6	AISLANTE SUPERIOR	CERAMICA
7	JUNTA PLANA	GOMA NBR
8	ARANDELA 120°	LATON
9	JUNTA ANULAR	GOMA NBR
10	ARANDELA 90°	LATON
11	TUERCA EXAGONAL	LATON

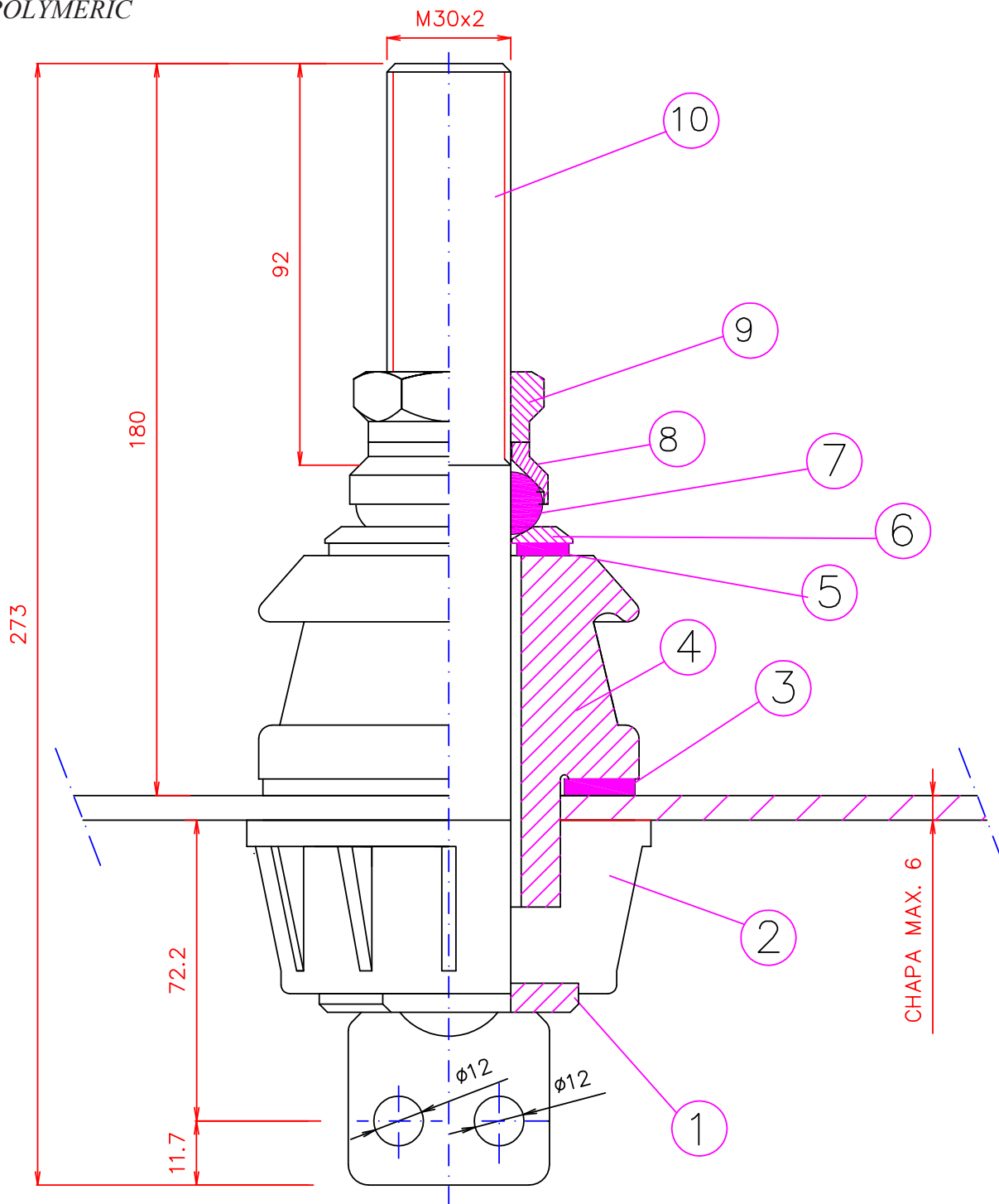
CONJUNTO PASATAPAS 1000A BT M30 AP 50386

BUSHING WITH INSULATOR FOR TRANSFORMER 1000A BT M30 AP 50386



MARCA	DENOMINACION	MATERIAL
1	PIEZA TOPE	LATON
2	ASIENTO	CARTON
3	AISLANTE INFERIOR	CERAMICA
4	ASIENTO	CARTON
5	JUNTA PLANA	GOMA NBR
6	AISLANTE SUPERIOR	CERAMICA
7	JUNTA PLANA	GOMA NBR
8	ARANDELA 120°	LATON
9	JUNTA ANULAR	GOMA NBR
10	ARANDELA 90°	LATON
11	TUERCA EXAGONAL	LATON
12	PERNO DE UNION	LATON

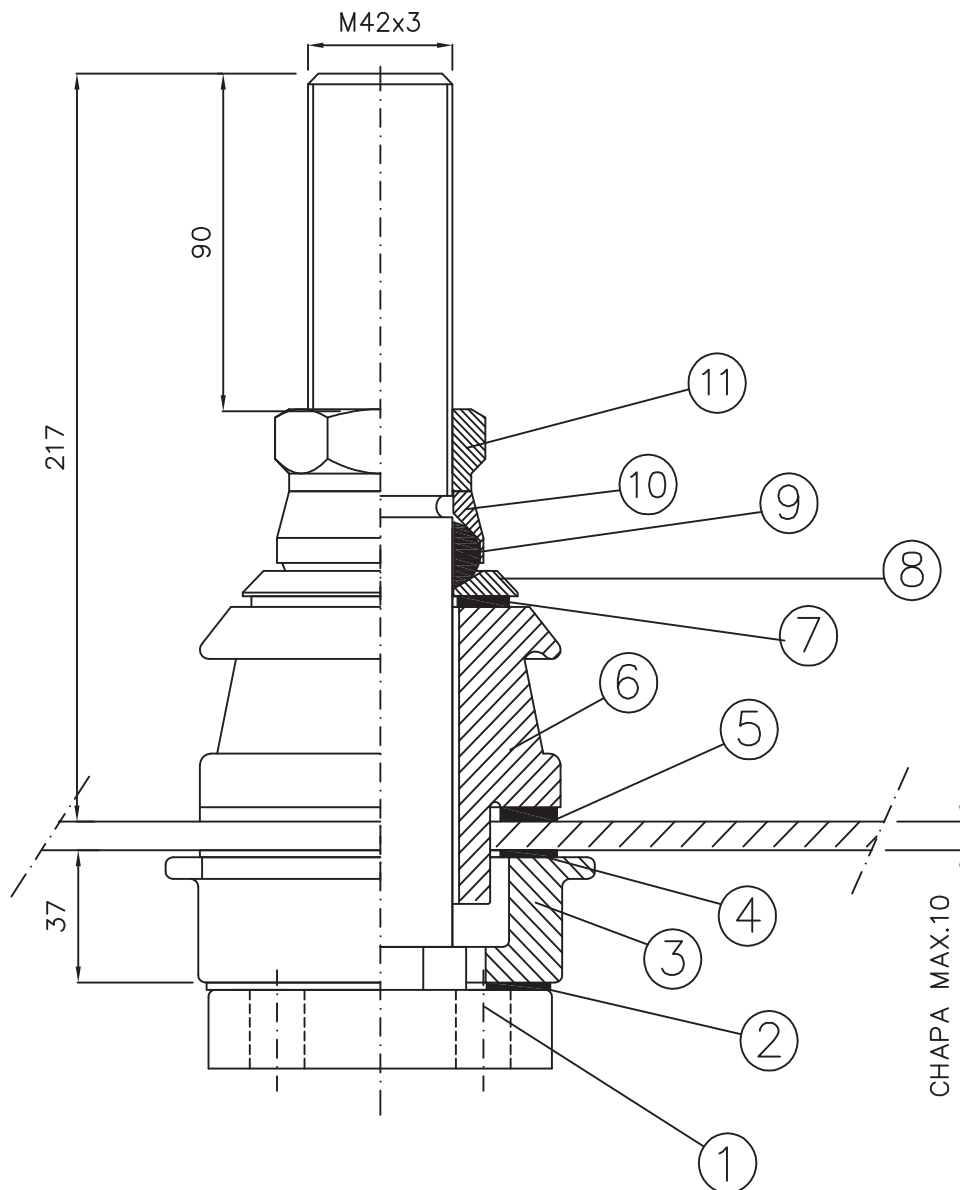
CONJUNTO PASATAPAS 1250 M30 AP DIN 50386 POLIMÉRICO
BUSHING WITH INSULATOR FOR TRANSFORMER 1250 M30 AP
DIN 50386 POLYMERIC



6	ARANDELA 120°	LATON					
5	JUNTA PLANA	GOMA NBR					
4	AISLANTE SUPERIOR	CERAMICA		10	PERNO DE UNION	LATON	
3	JUNTA PLANA	GOMA NBR		9	TUERCA EXAGONAL	LATON	
2	AISLANTE INFERIOR	POLIMERICO		8	ARANDELA 90°	LATON	
1	PIEZA TOPE	LATON		7	JUNTA ANULAR	GOMA NBR	
MARCA	DENOMINACION	MATERIAL	REFERENCIA	MARCA	DENOMINACION	MATERIAL	REFERENCIA

CONJUNTO PASATAPAS 2000A BT M42 EN 50386

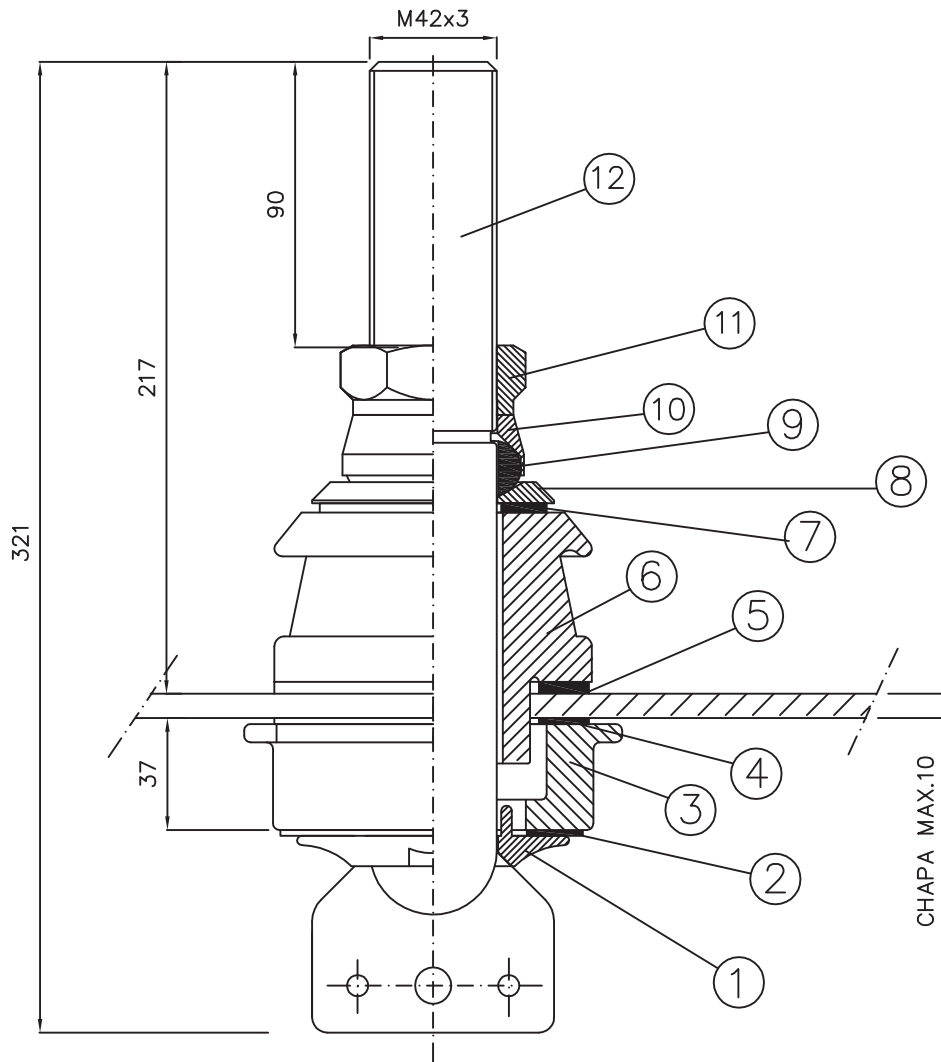
BUSHING WITH INSULATOR FOR TRANSFORMER 2000A BT M42 EN 50386



MARCA	DENOMINACION	MATERIAL
1	PERNO DE UNION	LATON
2	ASIENTO	CARTON
3	AISLANTE INFERIOR	CERAMICA
4	ASIENTO	CARTON
5	JUNTA PLANA	GOMA NBR
6	AISLANTE SUPERIOR	CERAMICA
7	JUNTA PLANA	GOMA NBR
8	ARANDELA 120°	LATON
9	JUNTA ANULAR	GOMA NBR
10	ARANDELA 90°	LATON
11	TUERCA EXAGONAL	LATON

CONJUNTO PASATAPAS 2000A BT M42 AP 50386

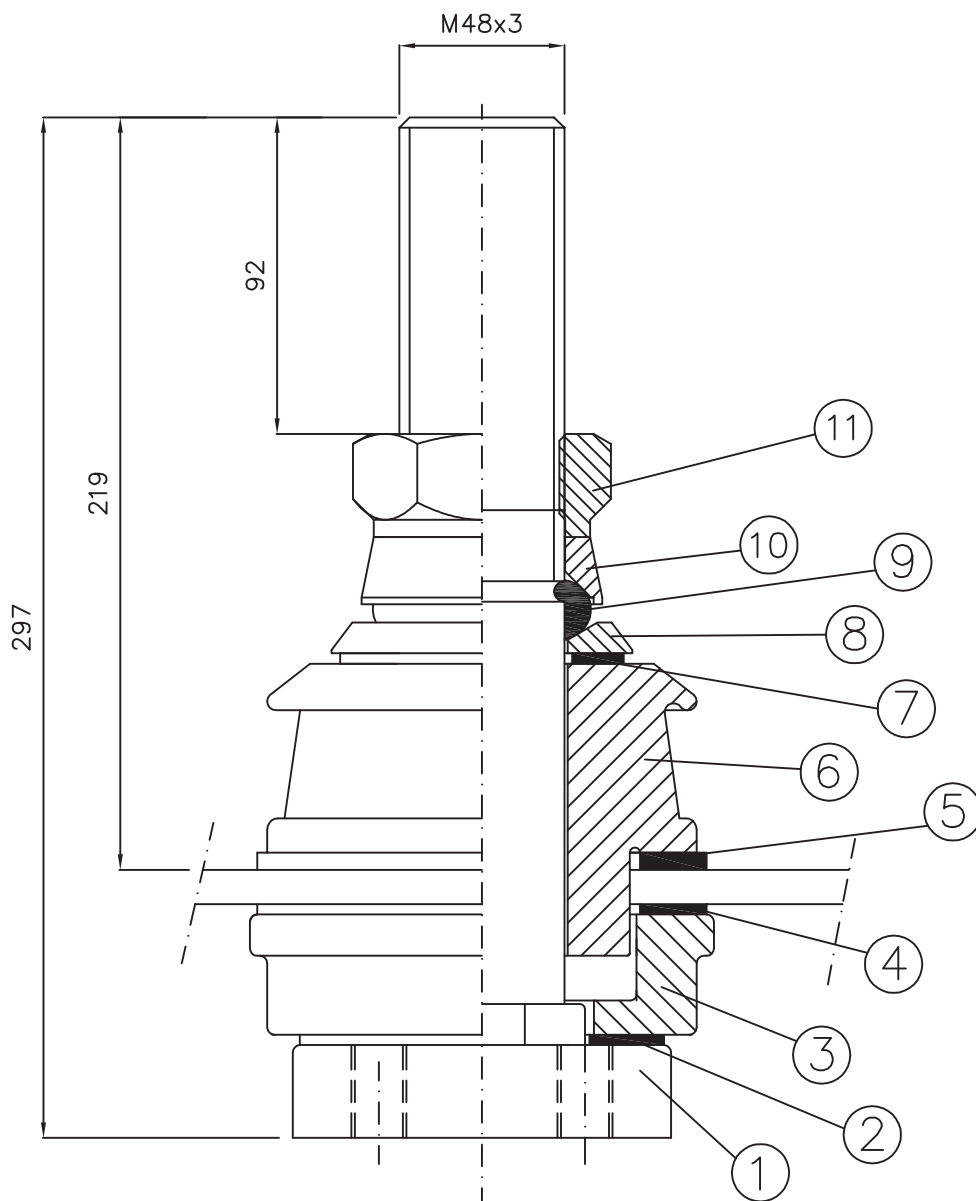
BUSHING WITH INSULATOR FOR TRANSFORMER 2000A BT M42 AP 50386



MARCA	DENOMINACION	MATERIAL
1	PIEZA TOPE	LATON
2	ASIENTO	CARTON
3	AISLANTE INFERIOR	CERAMICA
4	ASIENTO	CARTON
5	JUNTA PLANA	GOMA NBR
6	AISLANTE SUPERIOR	CERAMICA
7	JUNTA PLANA	GOMA NBR
8	ARANDELA 120°	LATON
9	JUNTA ANULAR	GOMA NBR
10	ARANDELA 90°	LATON
11	TUERCA EXAGONAL	LATON
12	PERNO DE UNION	LATON

CONJUNTO PASATAPAS 3150A BT M48 EN 50386

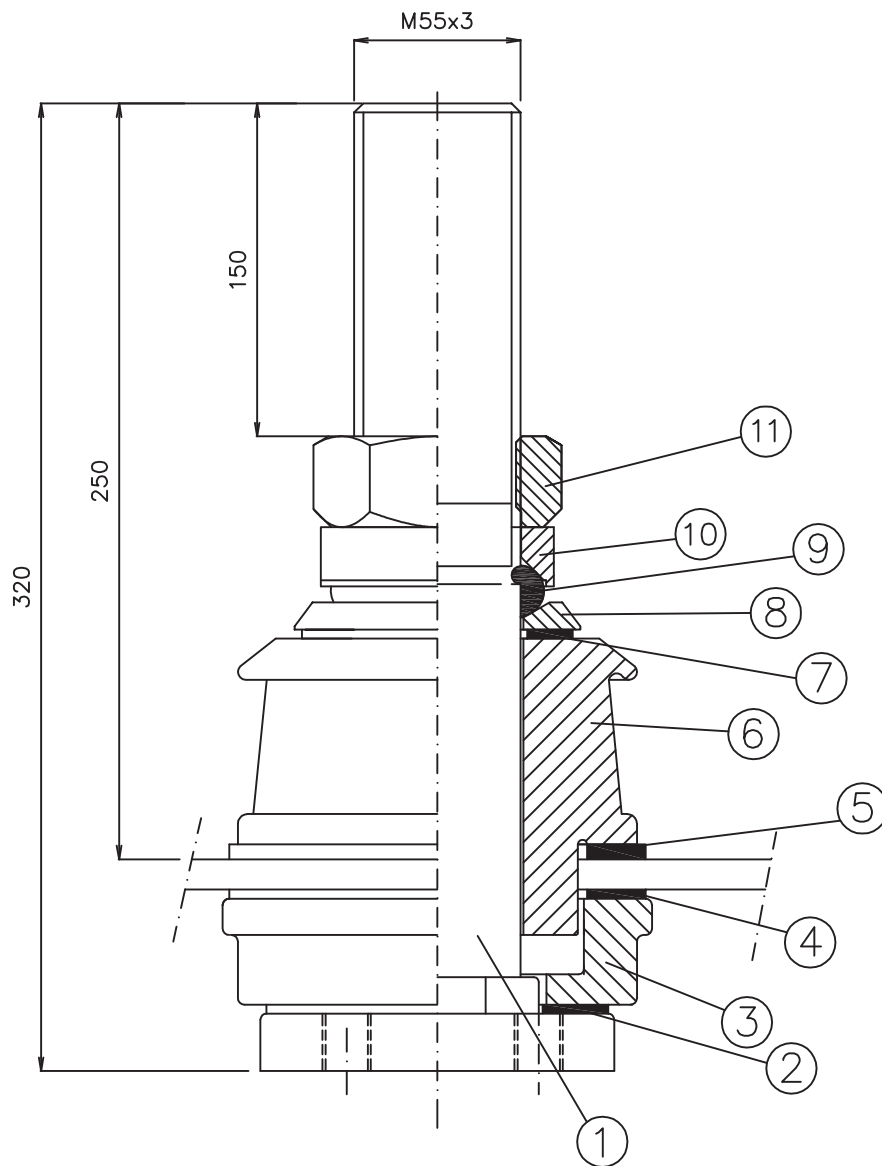
BUSHING WITH INSULATOR FOR TRANSFORMER 3150A BT M48 EN 50386



MARCA	DENOMINACION	MATERIAL
1	PERNO DE UNION	LATON
2	ASIENTO	CARTON
3	AISLANTE INFERIOR	CERAMICA
4	ASIENTO	CARTON
5	JUNTA PLANA	GOMA NBR
6	AISLANTE SUPERIOR	CERAMICA
7	JUNTA PLANA	GOMA NBR
8	ARANDELA 120°	LATON
9	JUNTA ANULAR	GOMA NBR
10	ARANDELA 90°	LATON
11	TUERCA EXAGONAL	LATON

CONJUNTO PASATAPAS 4000A BT M55 EN 50386

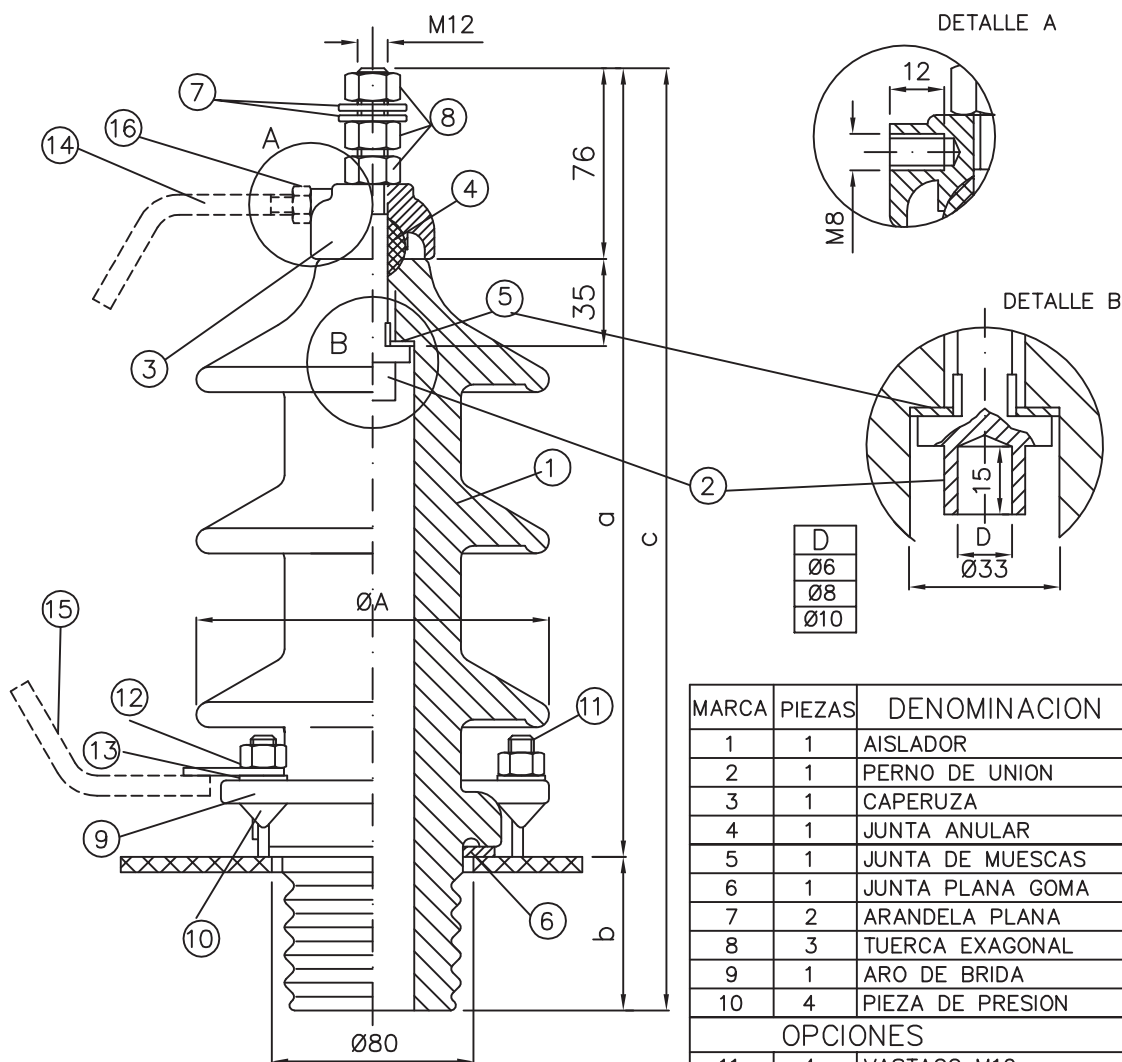
BUSHING WITH INSULATOR FOR TRANSFORMER 4000A BT M55 EN 50386



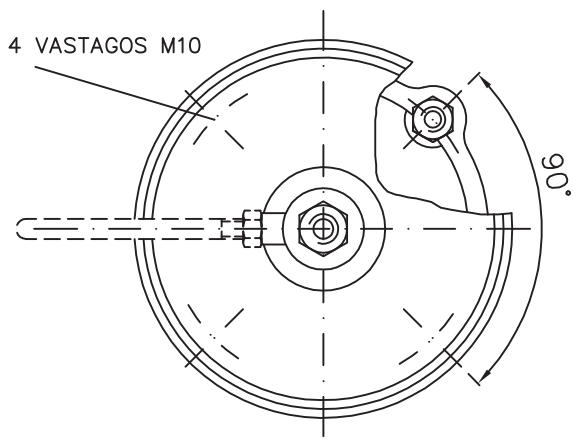
MARCA	DENOMINACION	MATERIAL
1	PERNO DE UNION	COBRE/LATON
2	ASIENTO	CARTON
3	AISLANTE INFERIOR	CERAMICA
4	ASIENTO	CARTON
5	JUNTA PLANA	GOMA NBR
6	AISLANTE SUPERIOR	CERAMICA
7	JUNTA PLANA	GOMA NBR
8	ARANDELA 120°	LATON
9	JUNTA ANULAR	GOMA NBR
10	ARANDELA 90°	LATON
11	TUERCA EXAGONAL	LATON

CONJUNTO PASATAPAS 12-24-36KV 250A EN 50180

BUSHING WITH INSULATOR FOR TRANSFORMER 12-24-36KV 250A EN 50180



MARCA	PIEZAS	DENOMINACION
1	1	AISLADOR
2	1	PERNO DE UNION
3	1	CAPERUZA
4	1	JUNTA ANULAR
5	1	JUNTA DE MUESCAS
6	1	JUNTA PLANA GOMA
7	2	ARANDELA PLANA
8	3	TUERCA EXAGONAL
9	1	ARO DE BRIDA
10	4	PIEZA DE PRESION
OPCIONES		
11	4	VASTAGO M10
12	4	TUERCA EXAGONAL M10
13	4	ARANDELA
14	1	DESCARGADOR SUPERIOR
15	1	DESCARGADOR INFERIOR
16	1	TUERCA EXAGONAL M8

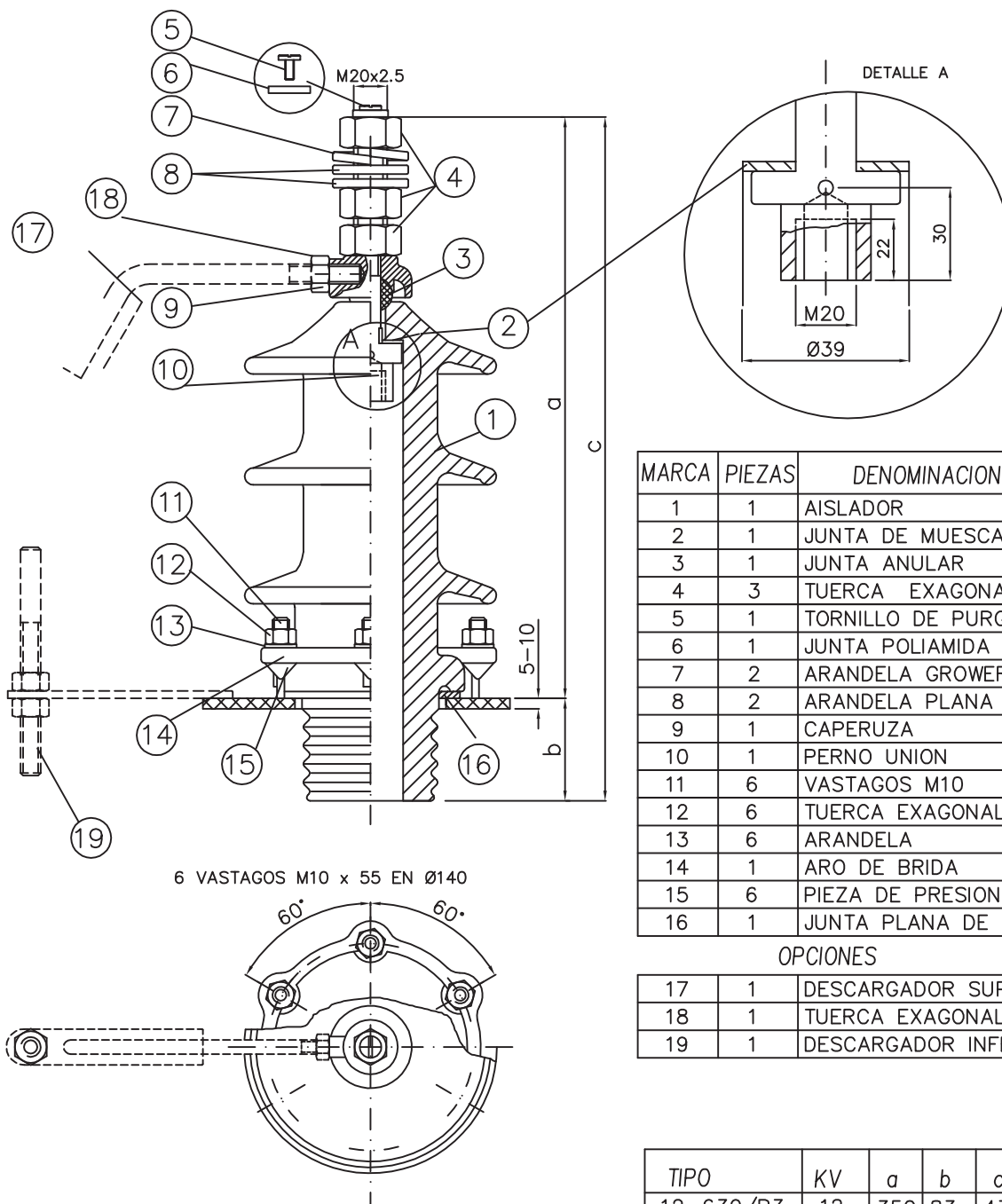


PROLONGADOR SOLO PARA PATP 36e/250

TIPO	a	b	c	ØA	P
PAT 12e/250	310	61	371	140	4.5
PAT 24e/250	385	76	461	155	6.1
PAT 36e/250	497	101	598	170	7.5
PATP 12e/250	310	171	481	140	4.5
PATP 24e/250	385	171	556	155	6.1
PATP 36e/250	497	216	713	170	7.5

CONJUNTO PASATAPAS 12-24-36KV 630A EN 50180

BUSHING WITH INSULATOR FOR TRANSFORMER 12-24-36KV 630A EN 50180



MARCA	PIEZAS	DENOMINACION
	1	AISLADOR
	2	JUNTA DE MUESCAS
	3	JUNTA ANULAR
	4	TUERCA EXAGONAL
	5	TORNILLO DE PURGA
	6	JUNTA POLIAMIDA
	7	ARANDELA GROWER
	8	ARANDELA PLANA
	9	CAPERUZA
	10	PERNO UNION
	11	VASTAGOS M10
	12	TUERCA EXAGONAL M10
	13	ARANDELA
	14	ARO DE BRIDA
	15	PIEZA DE PRESION
	16	JUNTA PLANA DE GOMA

OPCIONES

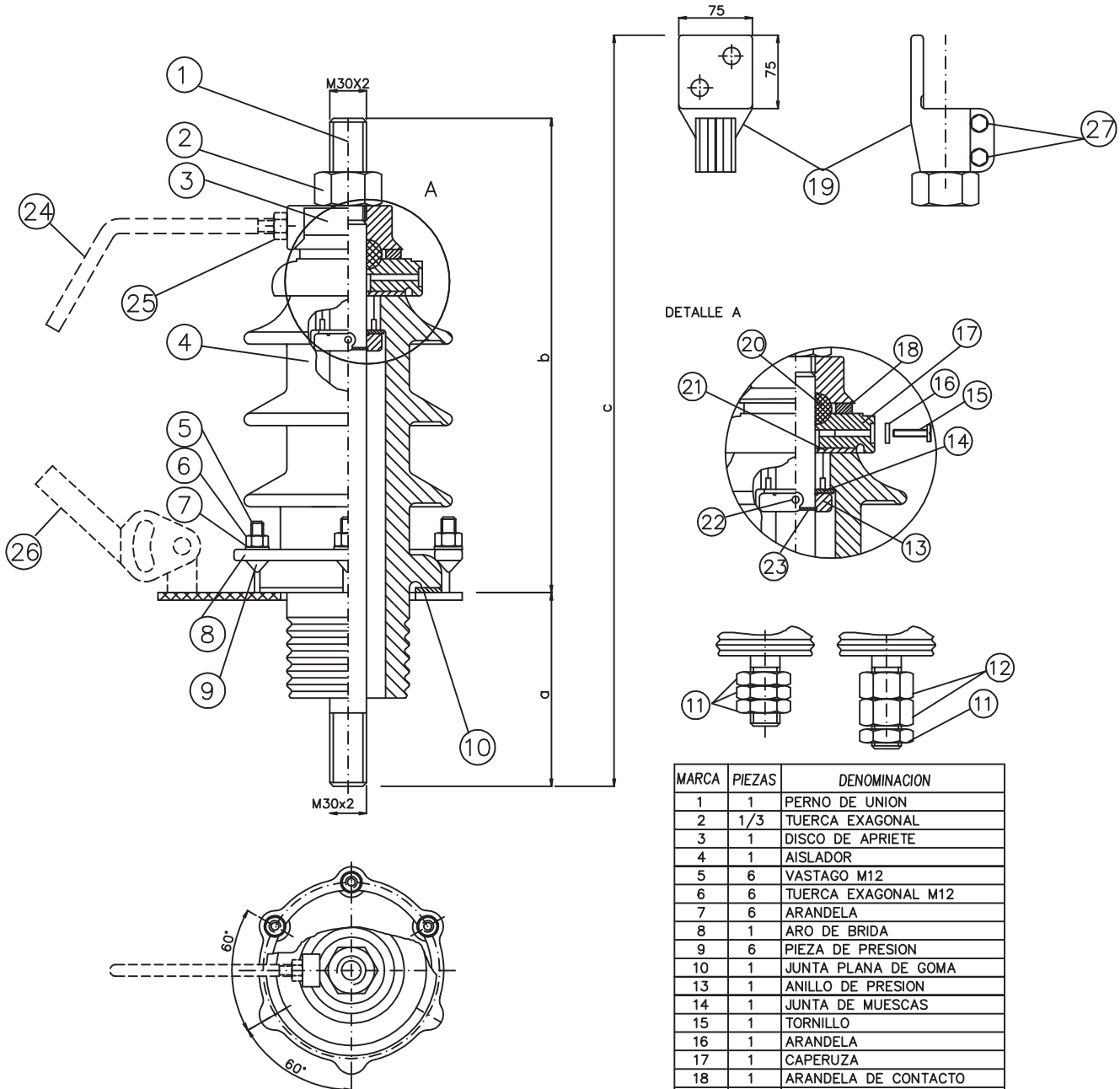
17	1	DESCARGADOR SUPERIOR
18	1	TUERCA EXAGONAL M12
19	1	DESCARGADOR INFERIOR

TIPO	KV	a	b	c	§
12-630/P3	12	350	83	433	2
12-630/P4	12	440	83	523	3
24-630/P2	24	540	83	623	5
24-630/P4	24	630	150	780	7
36-630/P2	36				
36-630/P4	36				

§ N° DE ALETAS

CONJUNTO PASATAPAS 12-24-36KV 1000A EN 50180

BUSHING WITH INSULATOR FOR TRANSFORMER 12-24-36KV 1000A EN 50180



6 VASTAGOS M12 x 65 EN Ø180

TIPO	KV	a	b	c	§
12-1250/P4	12	173	415	653	2
24-1250/P3	24	173	480	718	4
24-1250/P4	24	173	575	813	5
36-1250/P3	36	173			
36-1250/P4	36	173	690	928	6

§ N° DE ALETAS

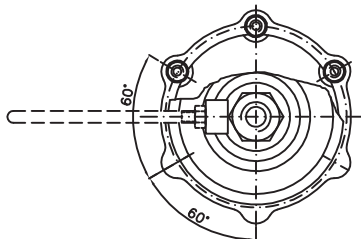
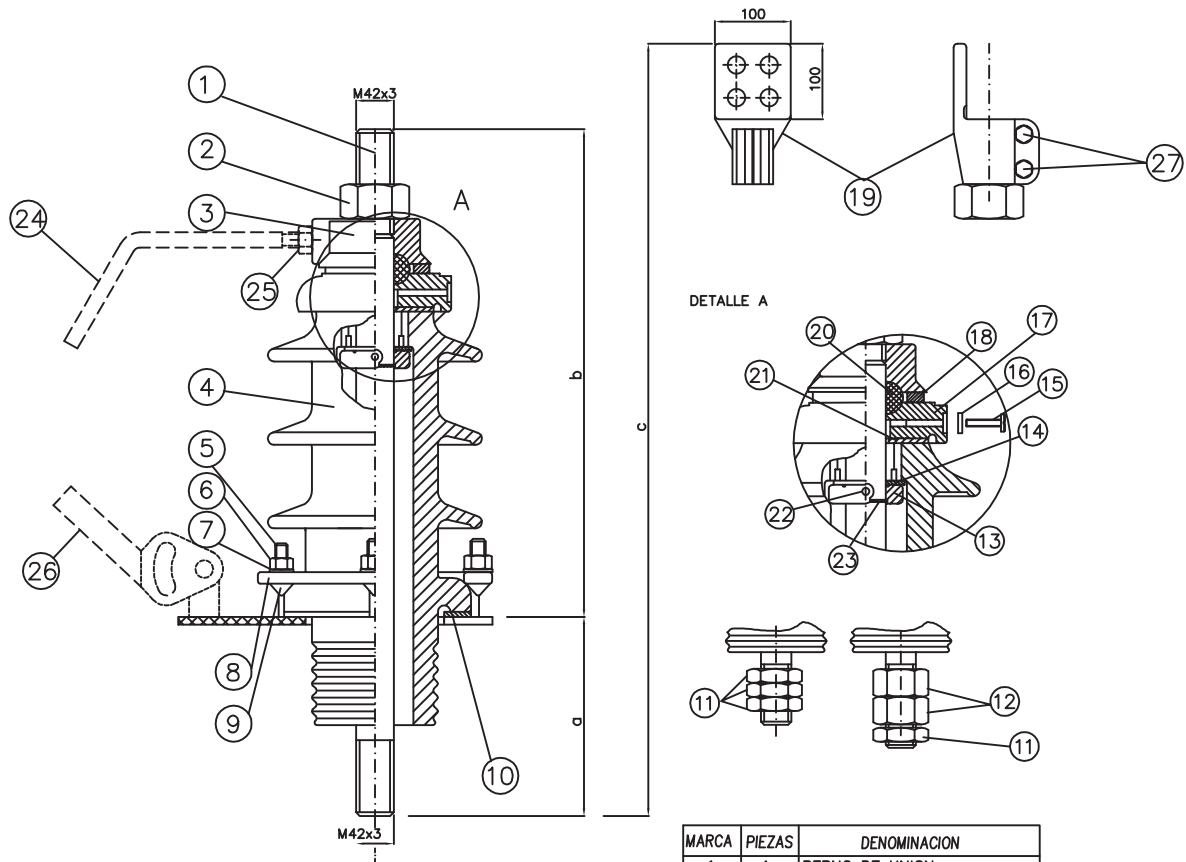
MARCA	PIEZAS	DENOMINACION
	1	PERNO DE UNION
	2	1/3 TUERCA EXAGONAL
	3	1 DISCO DE APRIETE
	4	1 AISLADOR
	5	6 VASTAGO M12
	6	6 TUERCA EXAGONAL M12
	7	6 ARANDELA
	8	1 ARO DE BRIDA
	9	6 PIEZA DE PRESION
	10	1 JUNTA PLANA DE GOMA
	13	1 ANILLO DE PRESION
	14	1 JUNTA DE MUESCAS
	15	1 TORNILLO
	16	1 ARANDELA
	17	1 CAPERUZA
	18	1 ARANDELA DE CONTACTO
	19	1 TERMINAL DE ACOPLAMIENTO
	20	1 JUNTA ANULAR
	21	1 JUNTA PLANA
	22	1 VARILLA ROSCADA M8x15
	23	1 ANILLA
	27	2 TORNILLO M10x40 A. INOX.

OPCIONES

11	3/1	CONTRATUERCA M30
12	0/2	TUERCA EXAGONAL M30
24	1	DESCARGADOR SUPERIOR
25	1	TUERCA EXAGONAL M20
26	1	DESCARGADOR INFERIOR

CONJUNTO PASATAPAS 12-24-36KV 2000A EN 50180

BUSHING WITH INSULATOR FOR TRANSFORMER 12-24-36KV 2000A EN 50180



6 VASTAGOS M12 x 65 EN Ø200

TIPO	KV	a	b	c	§
12-2000/P4	12	203	450	766	2
24-2000/P3	24	203	515	831	4
24-2000/P4	24	203	610	926	5
36-2000/P3	36	203	610	926	5
36-2000/P4	36	203	725	1041	6

§ N° DE ALETAS

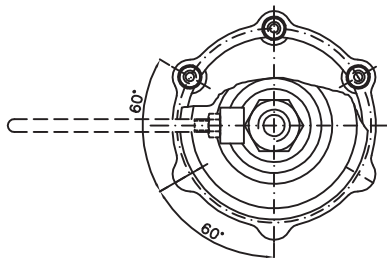
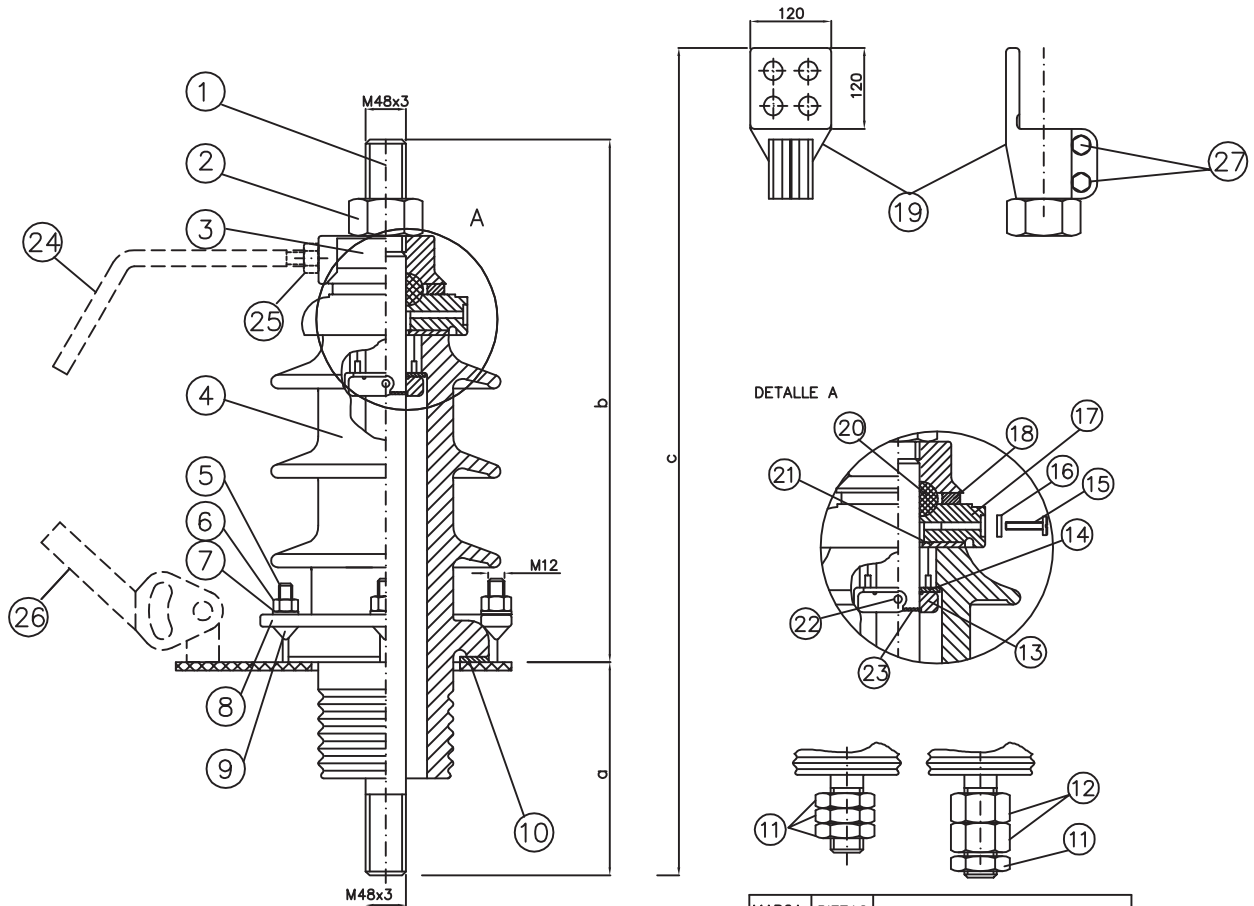
MARCA	PIEZAS	DENOMINACION
1	1	PERNO DE UNION
2	1/3	TUERCA EXAGONAL
3	1	DISCO DE APRIETE
4	1	AISLADOR
5	6	VASTAGO M12
6	6	TUERCA EXAGONAL M12
7	6	ARANDELA
8	1	ARO DE BRIDA
9	6	PIEZA DE PRESION
10	1	JUNTA PLANA DE GOMA
13	1	ANILLO DE PRESION
14	1	JUNTA DE MUESCAS
15	1	TORNILLO
16	1	ARANDELA
17	1	CAPERUZA
18	1	ARANDELA DE CONTACTO
19	1	TERMINAL DE ACOPLAMIENTO
20	1	JUNTA ANULAR
21	1	JUNTA PLANA
22	1	VARILLA ROSCADA M8x15
23	1	ANILLA
27	2	TORNILLO M12x50 A. INOX.

OPCIONES

11	3/1	CONTRATUERCA M42
12	0/2	TUERCA EXAGONAL M42
24	1	DESCARGADOR SUPERIOR
25	1	TUERCA EXAGONAL M20
26	1	DESCARGADOR INFERIOR

CONJUNTO PASATAPAS 12-24-36KV 3150A EN 50180

BUSHING WITH INSULATOR FOR TRANSFORMER 12-24-36KV 3150A EN 50180



6 VASTAGOS M12 x 65 EN Ø200

TIPO	KV	a	b	c	§
12-3150/P4	12	203	450	766	2
24-3150/P3	24	203	515	831	4
24-3150/P4	24	203	610	926	5
36-3150/P3	36	203			
36-3150/P4	36	203	725	1041	6

§ N° DE ALETAS

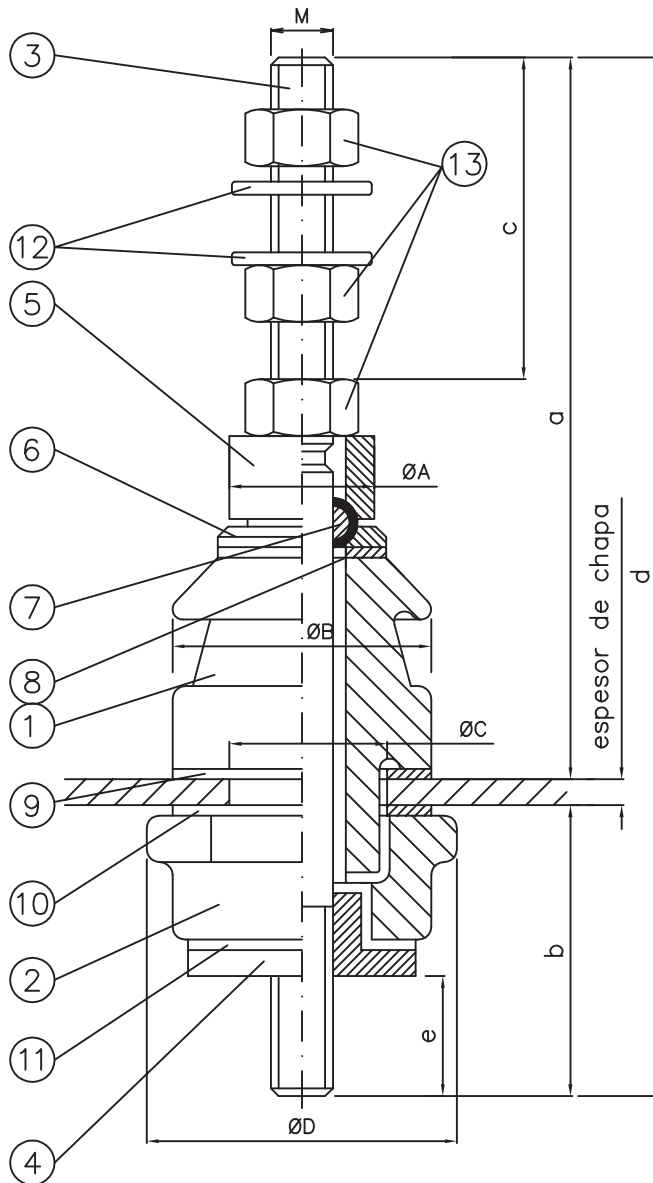
MARCA	PIEZAS	DENOMINACION
1	1	PERNO DE UNION
2	1/3	TUERCA EXAGONAL
3	1	DISCO DE APRIETE
4	1	AISLADOR
5	6	VASTAGO M12
6	6	TUERCA EXAGONAL M12
7	6	ARANDELA
8	1	ARO DE BRIDA
9	6	PIEZA DE PRESION
10	1	JUNTA PLANA DE GOMA
13	1	ANILLO DE PRESION
14	1	JUNTA DE MUESCAS
15	1	TORNILLO
16	1	ARANDELA
17	1	CAPERUZA
18	1	ARANDELA DE CONTACTO
19	1	TERMINAL DE ACOPLAMIENTO
20	1	JUNTA ANULAR
21	1	JUNTA PLANA
22	1	VARILLA ROSCADA M8x15
23	1	ANILLA
27	2	TORNILLO M12x65 A. INOX.

OPCIONES

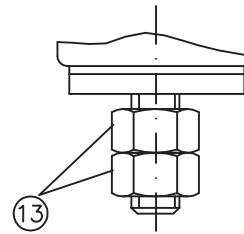
11	3/1	CONTRATUERCA M48
12	0/2	TUERCA EXAGONAL M48
24	1	DESCARGADOR SUPERIOR
25	1	TUERCA EXAGONAL M20
26	1	DESCARGADOR INFERIOR

CONJUNTO PASATAPAS 1KV 250-360A UNE 20176

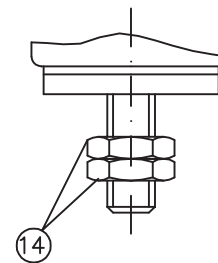
BUSHING WITH INSULATOR FOR TRANSFORMER 1KV 250-360A UNE 20176



Opción P1



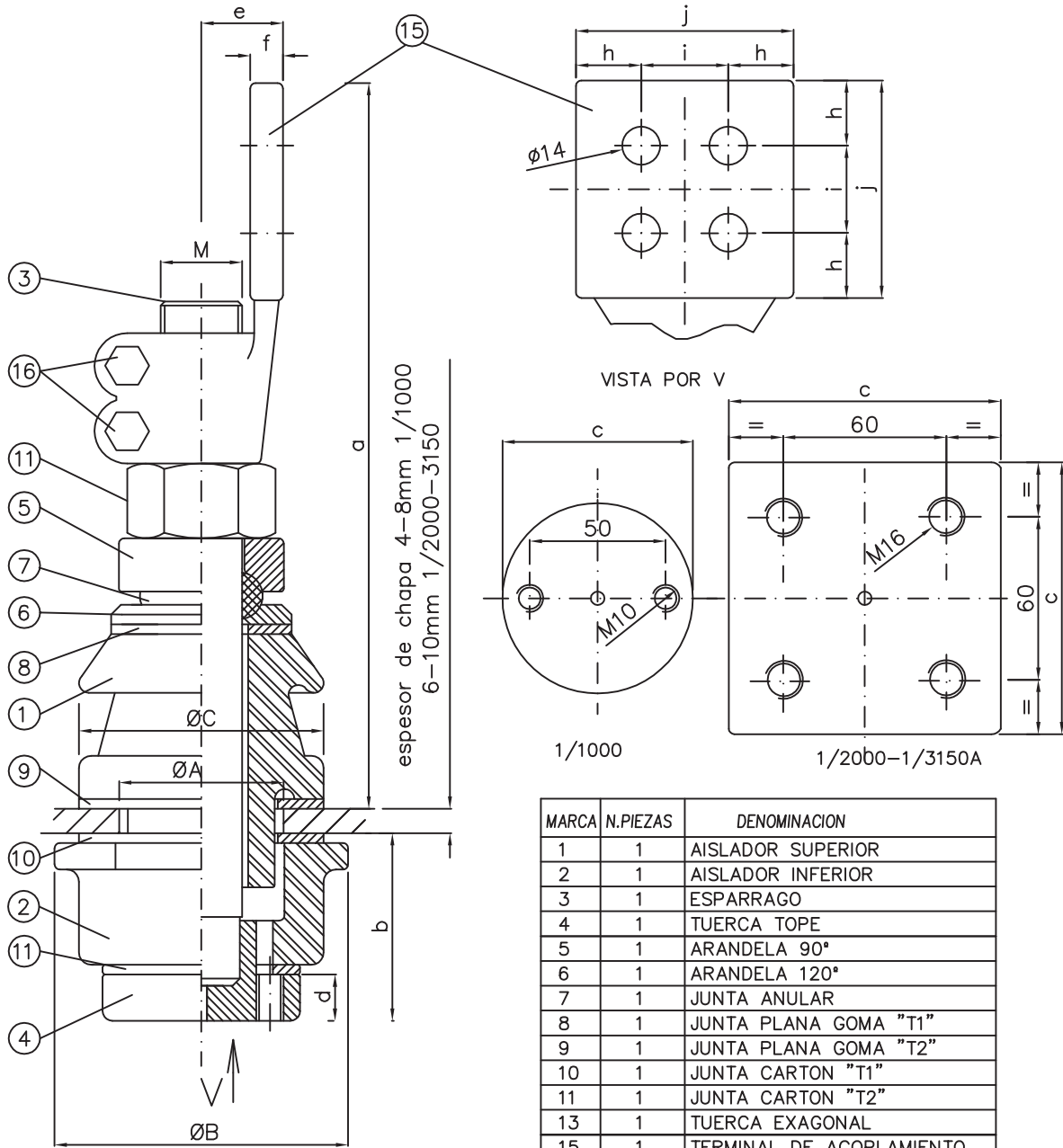
Opción P2



POS	P.ZAS	DENOMINACION
1	1	AISLADOR SUPERIOR
2	1	AISLADOR INFERIOR
3	1	ESPARRAGO
4	1	TUERCA TOPE
5	1	ARANDELA 90°
6	1	ARANDELA 120°
7	1	JUNTA ANULAR
8	1	JUNTA PLANA GOMA "T1"
9	1	JUNTA PLANA GOMA "T2"
10	1	JUNTA CARTON "T1"
11	1	JUNTA CARTON "T2"
12	2	ARANDELA PLANA
13	3/5	TUERCA EXAGONAL
14	2/0	CONTRATUERCA EXAGONAL

TIPO	Am	a	b	c	d	e	ØA	ØB	ØC	ØD	M	P
PAT 1e/ 250	250	125	93	34	219	27	28	50	28	60	M12x1.75	0.8
PAT 1e/ 630	630	176	108	64	286	39	40	70	40	85	M20x2.5	2.2

CONJUNTO PASATAPAS 1KV 1000-2000-3150-4000A UNE 20176
BUSHING WITH INSULATOR FOR TRANSFORMER
1KV 1000-2000-3150-4000A UNE 20176



MARCA	N.PIEZAS	DENOMINACION
1	1	AISLADOR SUPERIOR
2	1	AISLADOR INFERIOR
3	1	ESPARRAGO
4	1	TUERCA TOPE
5	1	ARANDELA 90°
6	1	ARANDELA 120°
7	1	JUNTA ANULAR
8	1	JUNTA PLANA GOMA "T1"
9	1	JUNTA PLANA GOMA "T2"
10	1	JUNTA CARTON "T1"
11	1	JUNTA CARTON "T2"
13	1	TUERCA EXAGONAL
15	1	TERMINAL DE ACOPLAMIENTO
16	2	TORNILLO INOXIDABLE

TIPO	Am	a	b	c	d	e	f	ØA	ØB	ØC	h	i	j	M
PAT 1e/1000	1000	274	78	70	17	30	12	56	110	90	24	32	80	M30x2
PAT 1e/2000	2000	325	83	100	22	45	20	70	125	104	25	50	100	M42x3
PAT 1e/3150	3150	355	88	110	27	45	20	90	150	125	30	60	120	M48x3
PAT 1e/4000	4000	355	88	110	27	45	20	90	150	125	30	60	120	M48x3



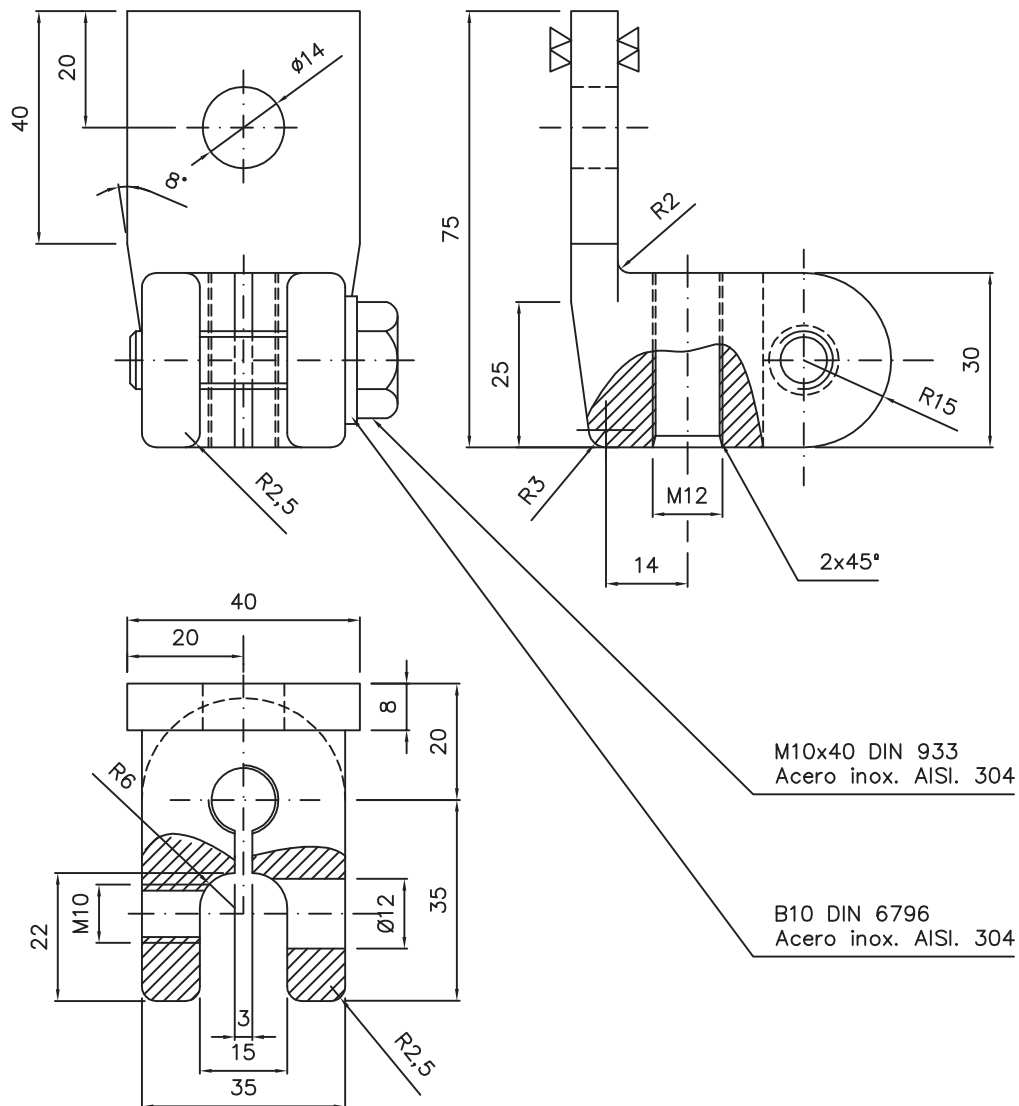
TERMINALES

DIN

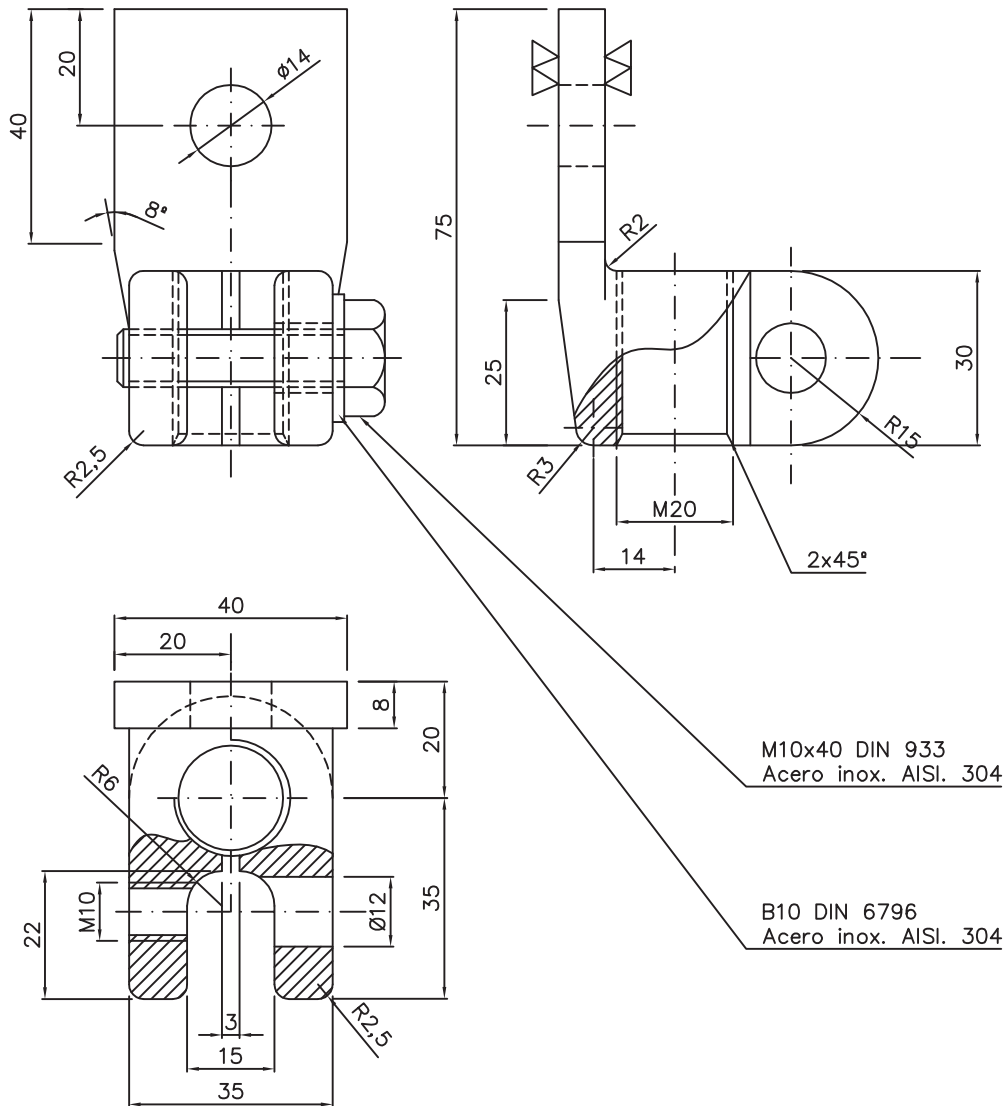
UNE

ESPECIALES

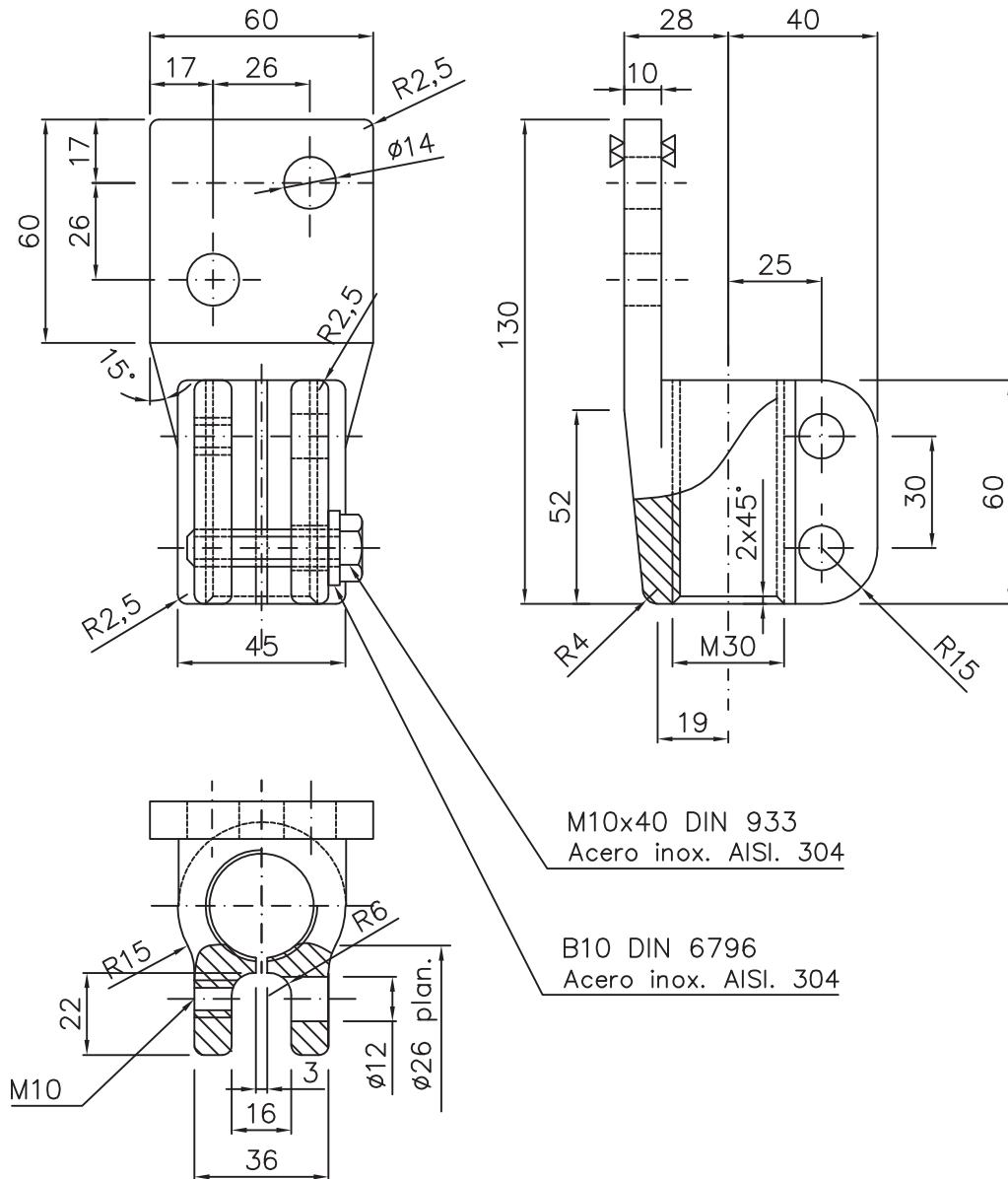
TERMINAL DE ACOPLAMIENTO M12 250A DIN 43675
FLAG M12 250A DIN 43675



TERMINAL DE ACOPLAMIENTO M20 630A DIN 43675
FLAG M20 630A DIN 43675

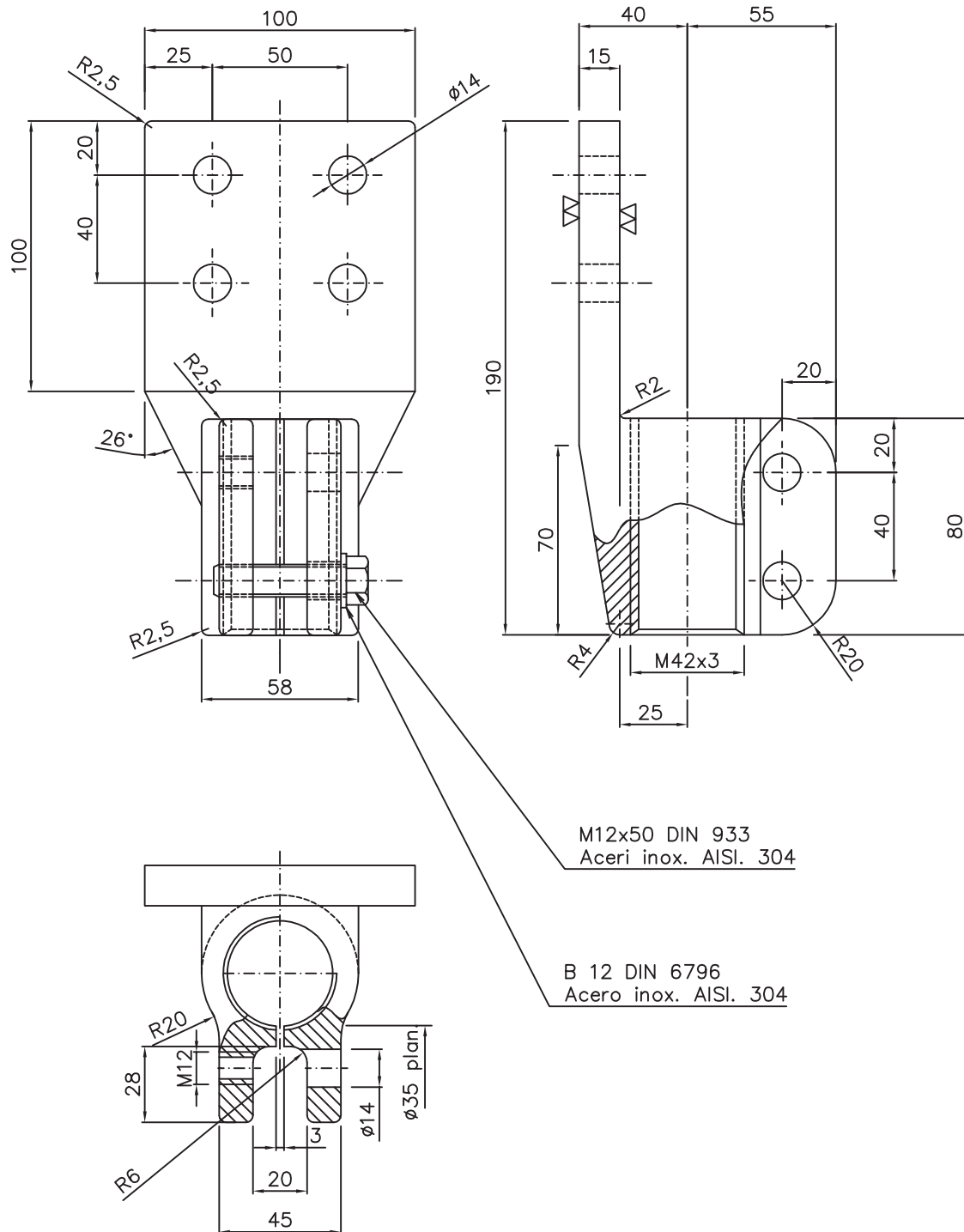


TERMINAL DE ACOPLAMIENTO M30 1250A DIN 43675
FLAG M30 1250A DIN 43675

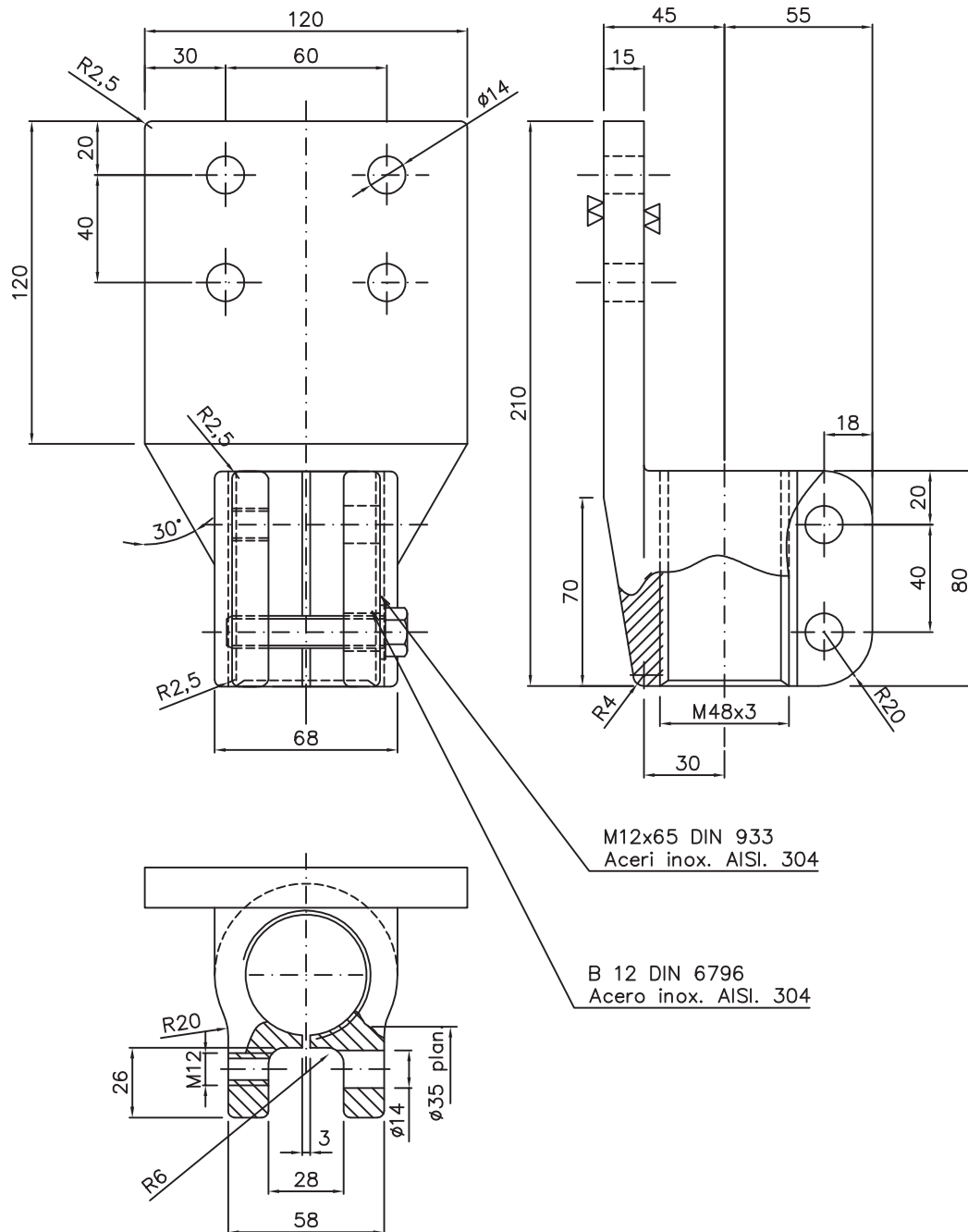


MATERIAL: Pieza de acoplamiento—Latón
 Tornillería—Acero inoxidable

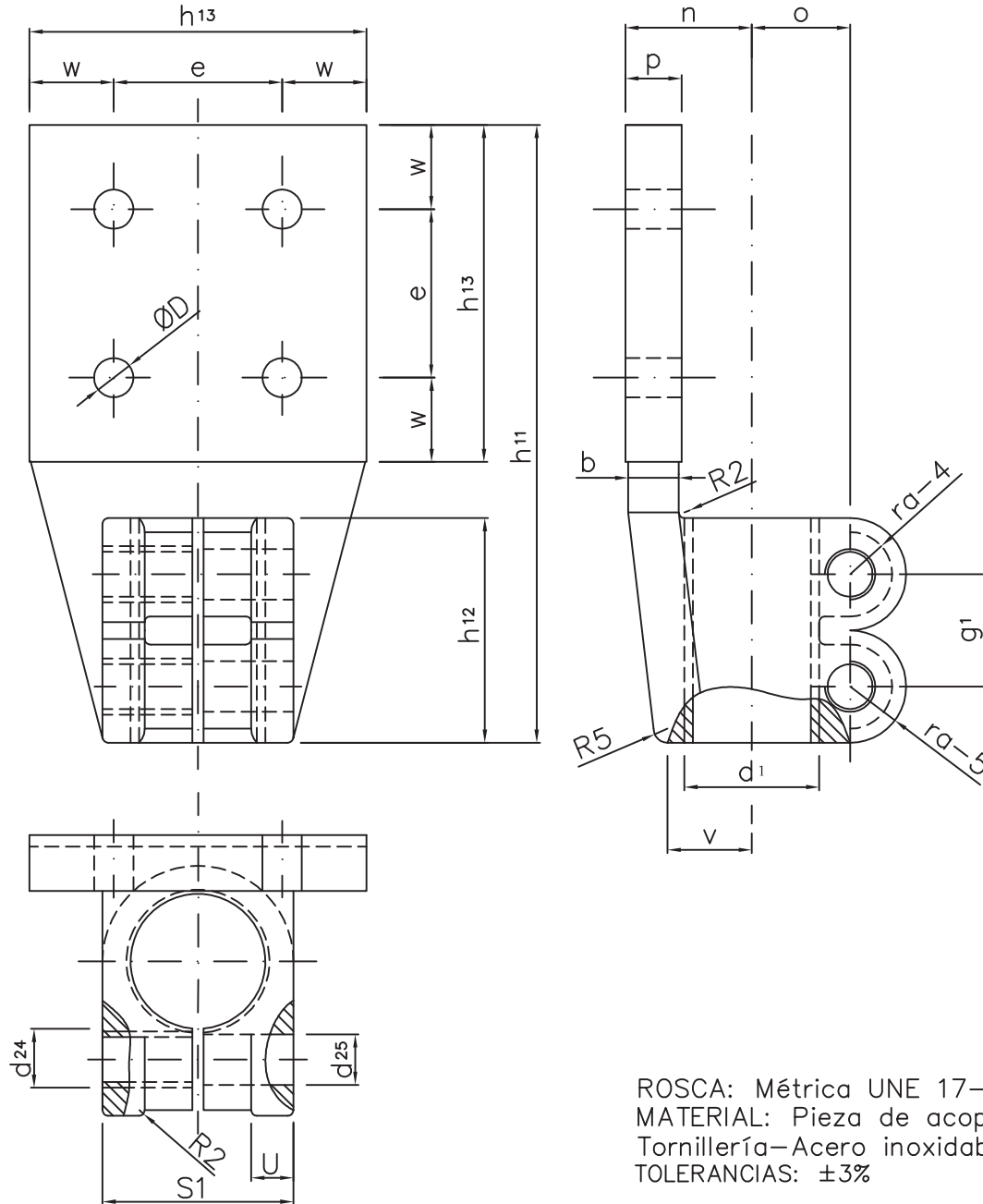
TERMINAL DE ACOPLAMIENTO M42 2000A DIN 43675
FLAG M42 2000A DIN 43675



TERMINAL DE ACOPLAMIENTO M48 3150A DIN 43675
FLAG M48 3150A DIN 43675



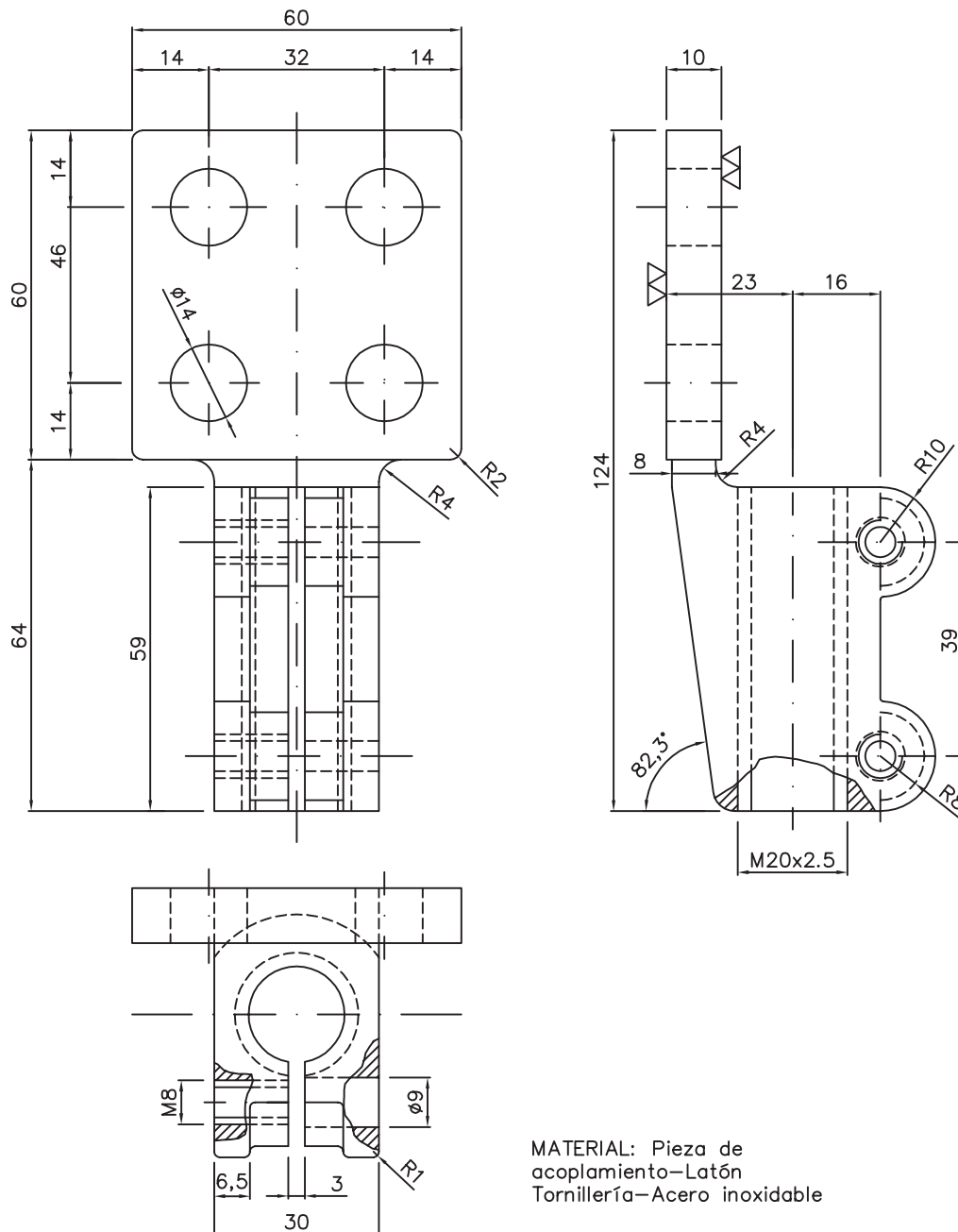
TERMINAL DE ACOPLAMIENTO M30-M42-M48 UNE 20176
FLAG M30-M42-M48 UNE 20176



ROSCA: Métrica UNE 17-702
MATERIAL: Pieza de acoplamiento-Latón.
Tornillería-Acero inoxidable
TOLERANCIAS: $\pm 3\%$

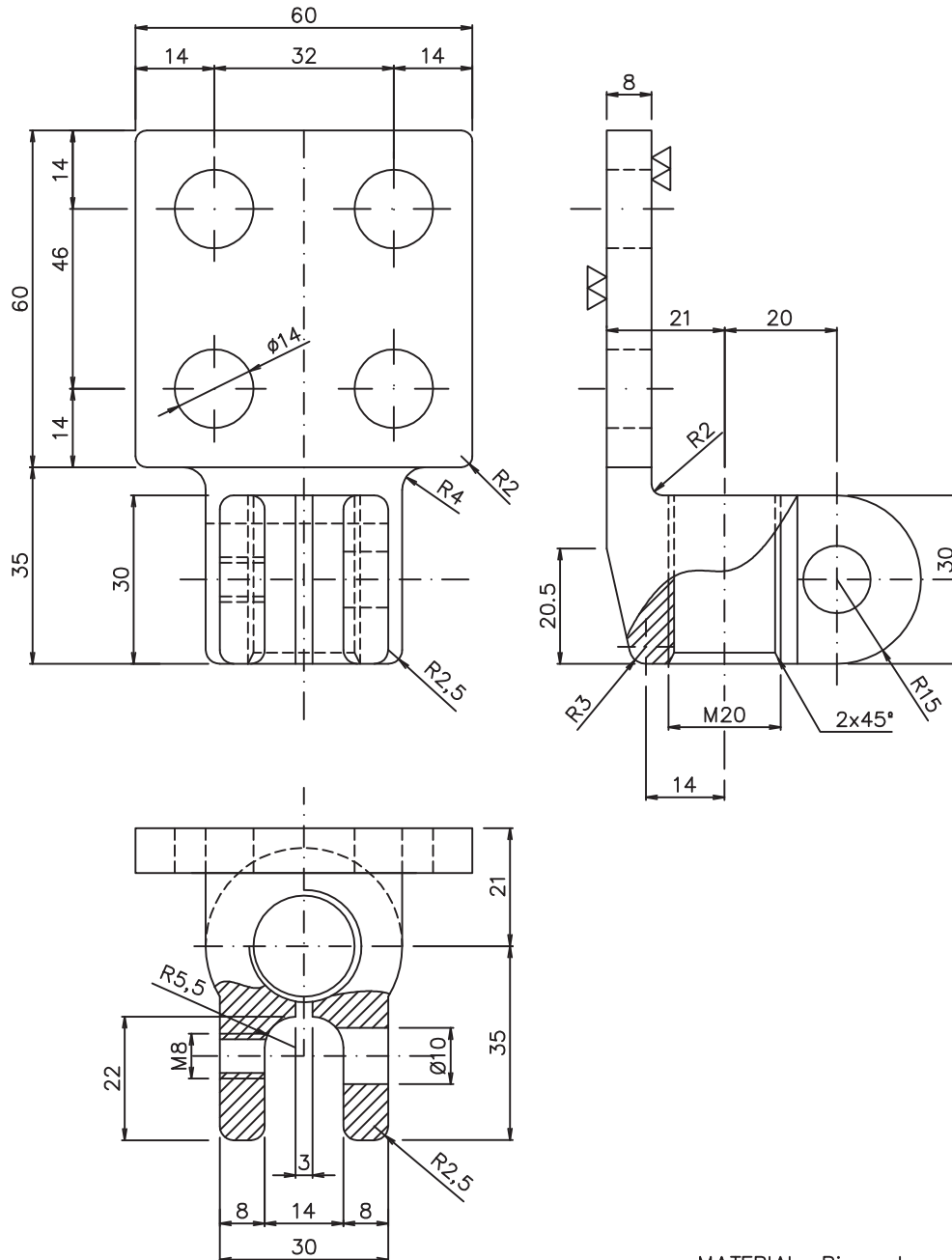
UNE 20 176	d1	d24	d25	e	g1	h11	h12	h13	n	o	p	b	r-4	r-5	S1	$\varnothing D$	v	w	Tornillo presión	Para Pasatapas
13-1e/1000	M30x2	M12x1.75	14	32	30	150	60	80	30	25	12	10	10	15	45	14	16	24	M12x1.75 long.45	PAT 1e/1000
13-1e/2000	M42x3	M16x2	18	50	40	195	80	100	45	35	20	18	15	20	58	14	26	25	M16x2 long.60	PAT 1e/2000
13-1e/3150	M48x3	M16x2	18	60	40	220	80	120	45	35	20	18	15	20	68	14	30	30	M16x2 long.70	PAT 1e/3150 PAT 1e/4000

TERMINAL DE ACOPLAMIENTO M20 ESPECIFICACION IBERDROLA
FLAG M20 ESPECIFICACION IBERDROLA



MATERIAL: Pieza de
acoplamiento—Latón
Tornillería—Acero inoxidable

TERMINAL DE ACOPLAMIENTO M20 4x14 630A
FLAG M20 4x14 630A



MATERIAL: Pieza de
acoplamiento-Latón
Tornillería-Acero inoxidable

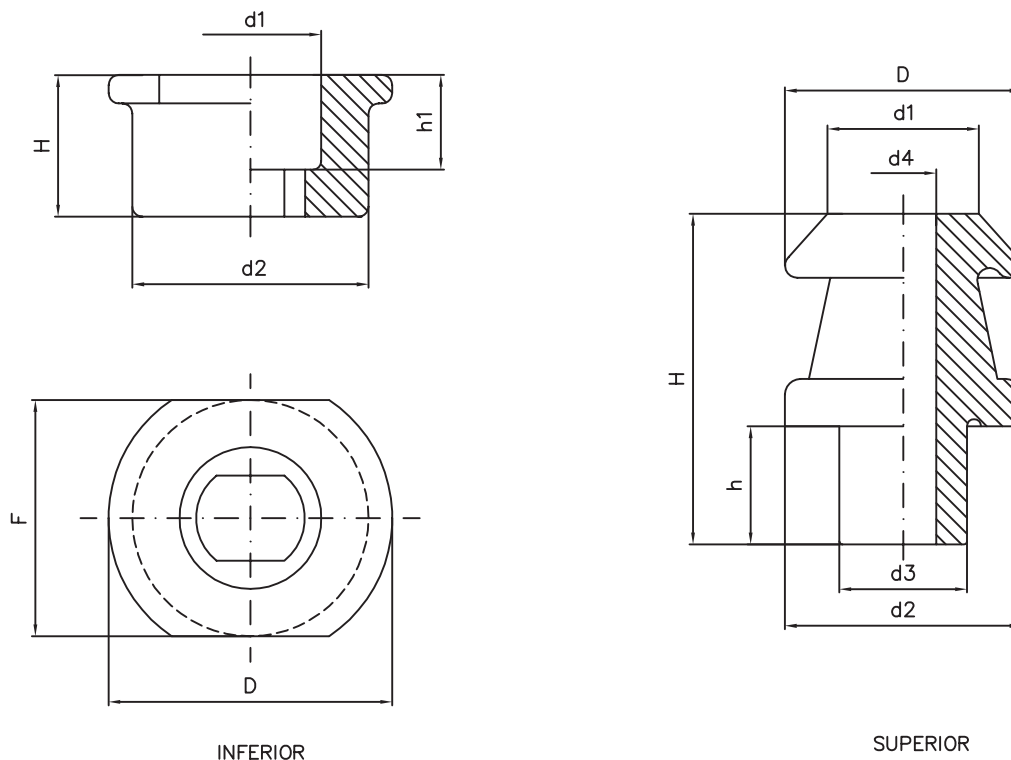


AISLADORES

DIN

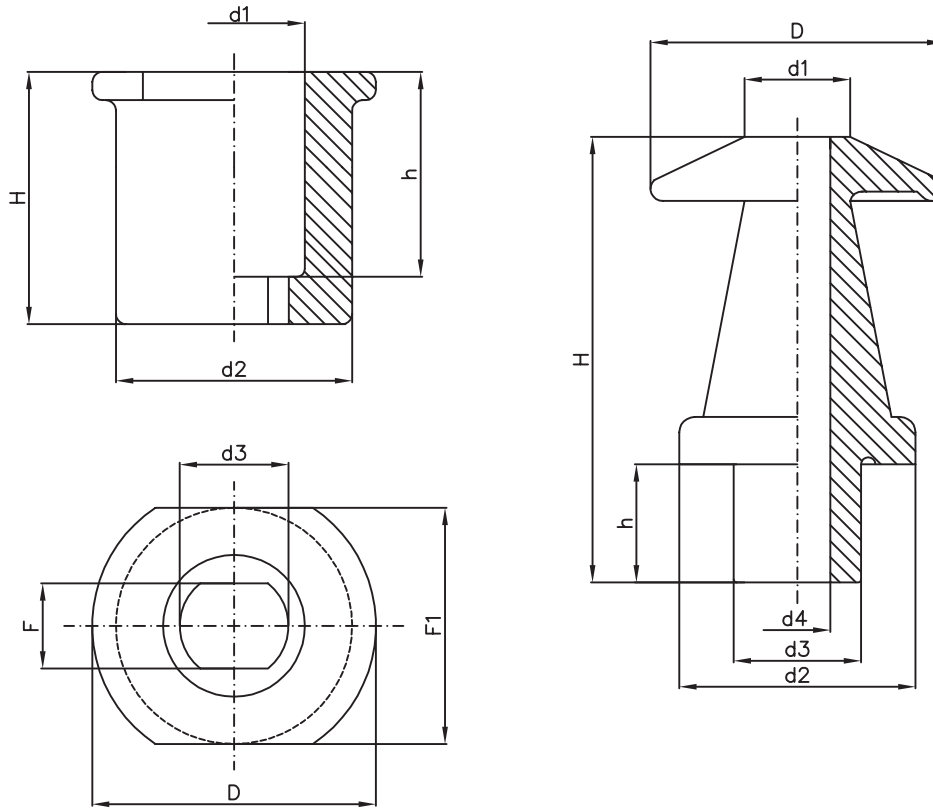
EN

AISLADOR PARA PASATAPA 1KV / 250-3150A DIN 42530
INSULATOR FOR BUSHING 1KV / 250-3150A DIN 42530



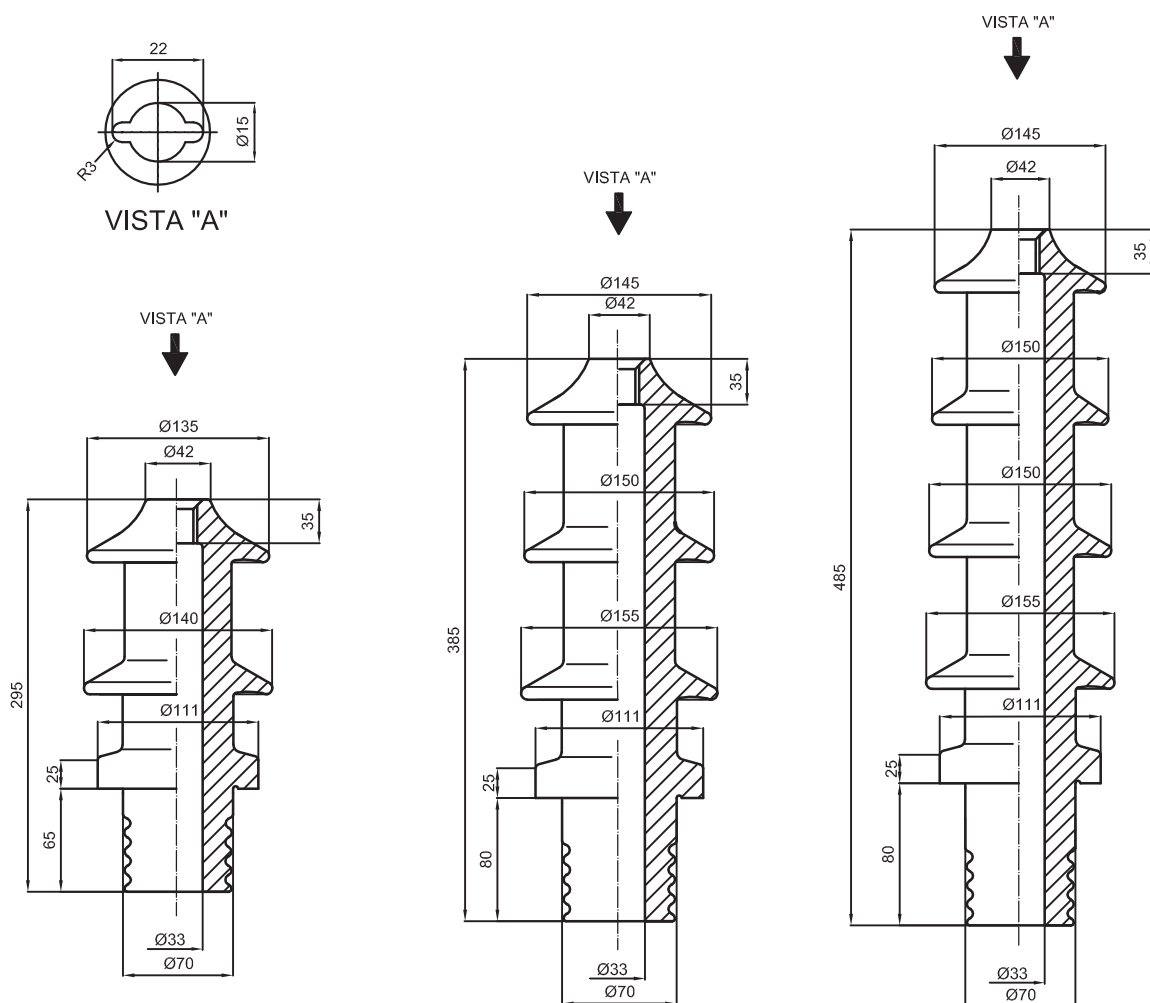
CODIGO	402031		402032		402033		402034		402035	
CLASE	1/250		1/630		1/1000		1/2000		1/3150	
COTAS(mm)	SUP.	INF.	SUP.	INF.	SUP.	INF.	SUP.	INF.	SUP.	INF.
H	70	30	80	30	85	35	85	35	85	35
D	50	60	70	85	90	110	104	125	125	150
d1	32	30	47	46	65	57	80	70	100	90
d2	50	50	70	70	90	90	104	104	125	125
d3	27	26	43	41	53	46	66	64	86	80
d4	14		22		32		44		50	
h	25	20	25	20	30	25	30	25	30	25
F		20		28		37		51		61
F1		50		70		90		104		125
DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	50		75		75		75		75	
DISTANCIA DE ARCO / ARCING DISTANCE (mm)	50		60		60		60		60	
TENSION NOMINAL / RATED VOLTAGE (V)	250	250	630	630	1000	1000	2000	2000	3150	3150
PESO / WEIGTH (g)	160	100	380	190	640	400	820	470	1350	700

AISLADOR PARA PASATAPA 3KV / 250-3150A DIN 42530
INSULATOR FOR BUSHING 3KV / 250-3150A DIN 42530



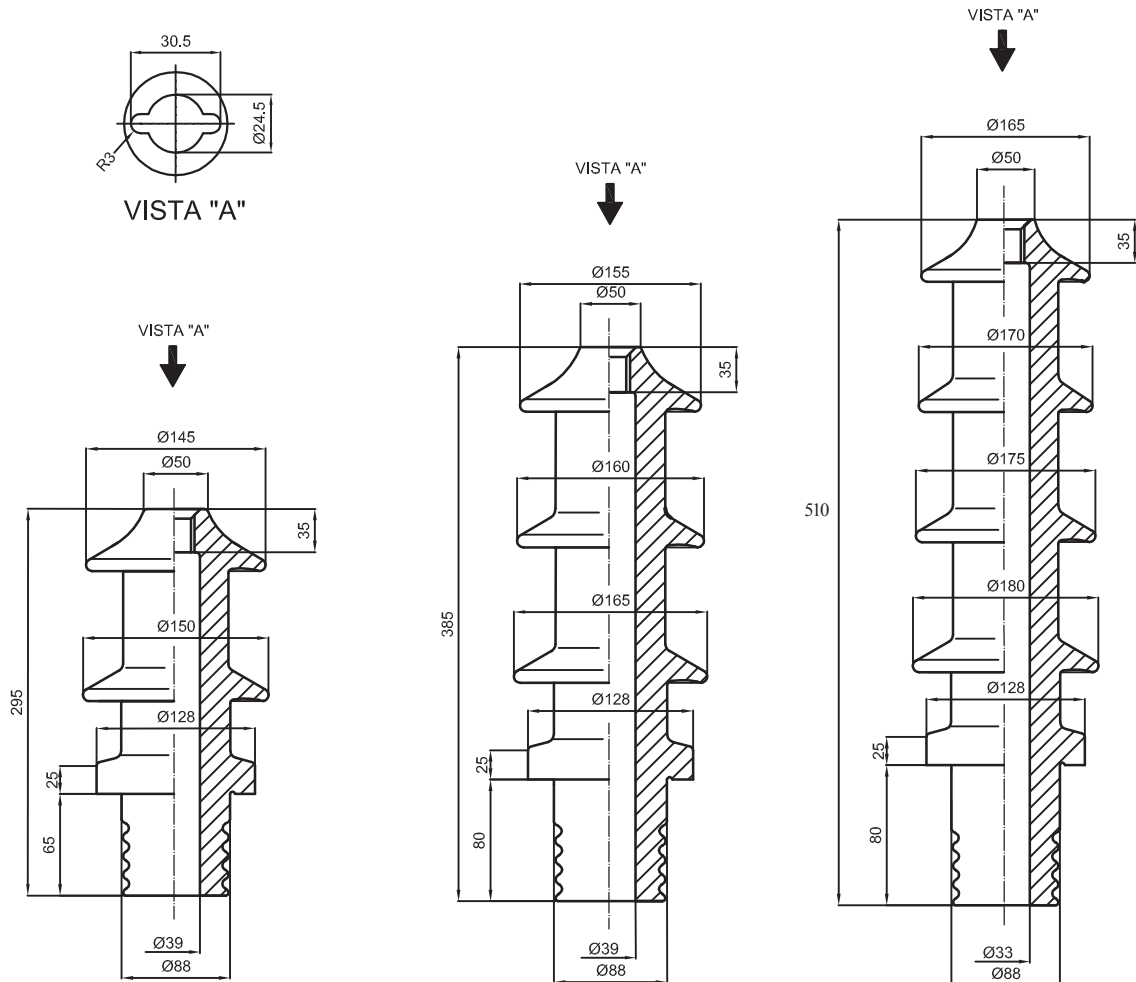
CODIGO	401011		401012		401014		401015		402037	
CLASE	3 / 250		3 / 630		3 / 1000		3 / 2000		3 / 3150	
COTAS(mm)	SUP.	INF.	SUP.	INF.	SUP.	INF.	SUP.	INF.	SUP.	INF.
H	135	55	135	55	135	55	135	55	135	55
D	75	70	90	85	110	110	125	125	145	150
d1	32	40	47	46	65	57	80	70	100	90
d2	60	60	70	70	90	90	105	105	125	125
d3	37	26	43	41	53	46	66	64	86	80
d4	14		22		32		44		50	
h	50	45	50	45	50	45	50	45	50	45
F		20		28		37		51		61
F1		60		70		90		105		125
DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	120		120		125		125		125	
DISTANCIA DE ARCO / ARCING DISTANCE (mm)	100		100		100		100		100	
TENSION NOMINAL / RATED VOLTAGE (V)	250	250	630	630	1000	1000	2000	2000	3150	3150
TENSION TIPO RAYO / LIGHTNING IMPULSE WITHSTAND VOLTAGE (mm)	40	40	40	40	40	40	40	40	40	40
FRECUENCIA DE TENSION NO DISRUPTIVA HUMEDA / POWER FREQUENCY WITHSTAND VOLTAGE, WET	10	10	10	10	10	10	10	10	10	10
TENSION IMPULSO TIPO RAYO EN SECO / LIGHTNING IMPULSE WITHSTAND VOLTAGE DRY	14	14	14	14	14	14	14	14	14	14
PESO / WEIGHT (g)	510	250	680	330	1130	580	1380	700	2050	900

AISLADOR PARA PASATAPA 10-20-30KV / 250A DIN 42531
INSULATOR FOR BUSHING 10-20-30KV / 250A DIN 42531



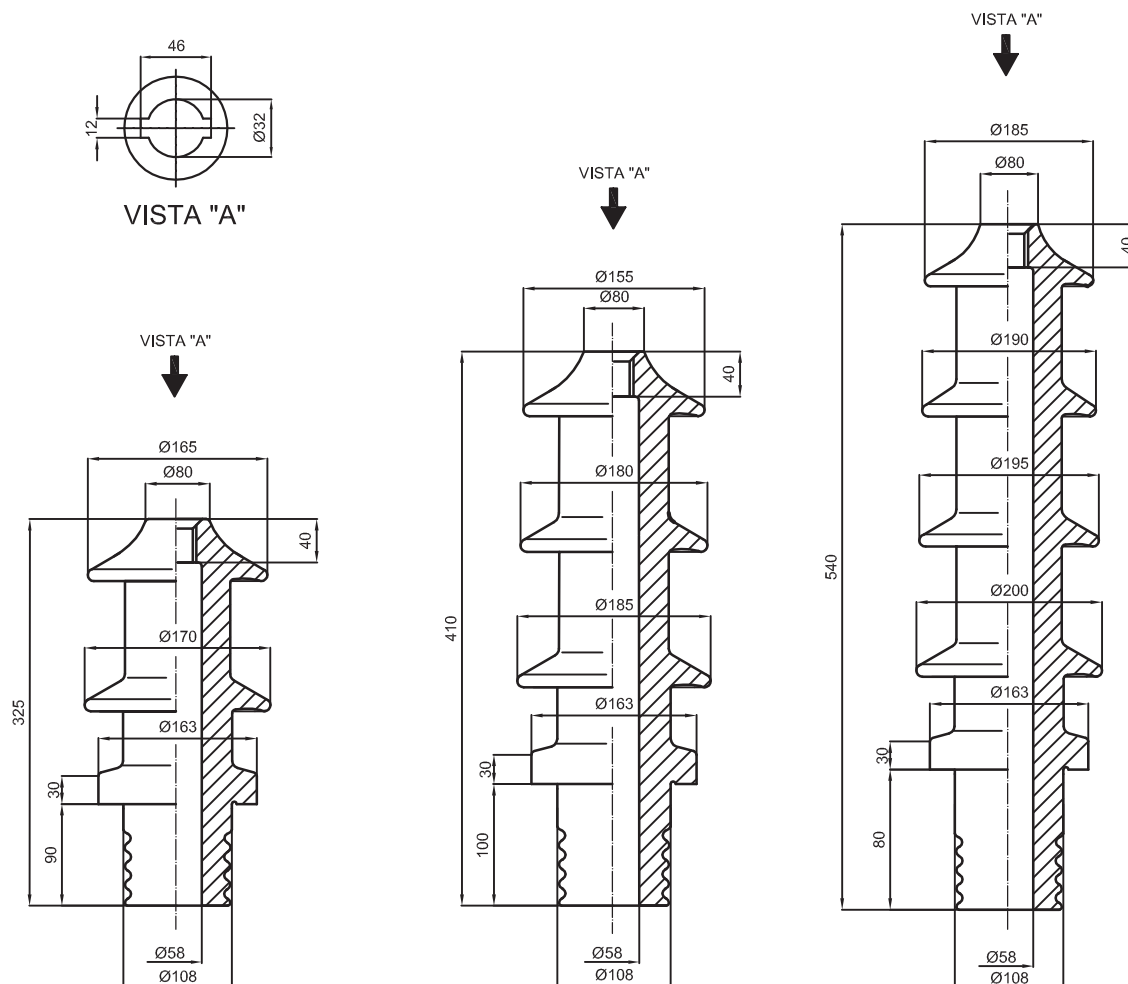
CODIGO	404400	404401	404501
CLASE	10 NF 250	20 NF 250	30 NF 250
DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	295	445	600
DISTANCIA DE ARCO / ARCING DISTANCE (mm)	85	155	220
TENSION NOMINAL / RATED VOLTAGE (V)	10÷12	20÷24	30÷36
TENSION TIPO RAYO / LIGHTNING IMPULSE WITHSTAND VOLTAGE (mm)	75	125	170
FRECUENCIA DE TENSION NO DISRRUPTIVA HUMEDA / POWER FREQUENCY WITHSTAND VOLTAGE, WET	28	50	70
PESO / WEIGTH (g)	3200	4700	6100

AISLADOR PARA PASATAPA 10-20-30KV / 630A DIN 42531
INSULATOR FOR BUSHING 10-20-30KV / 630A DIN 42531



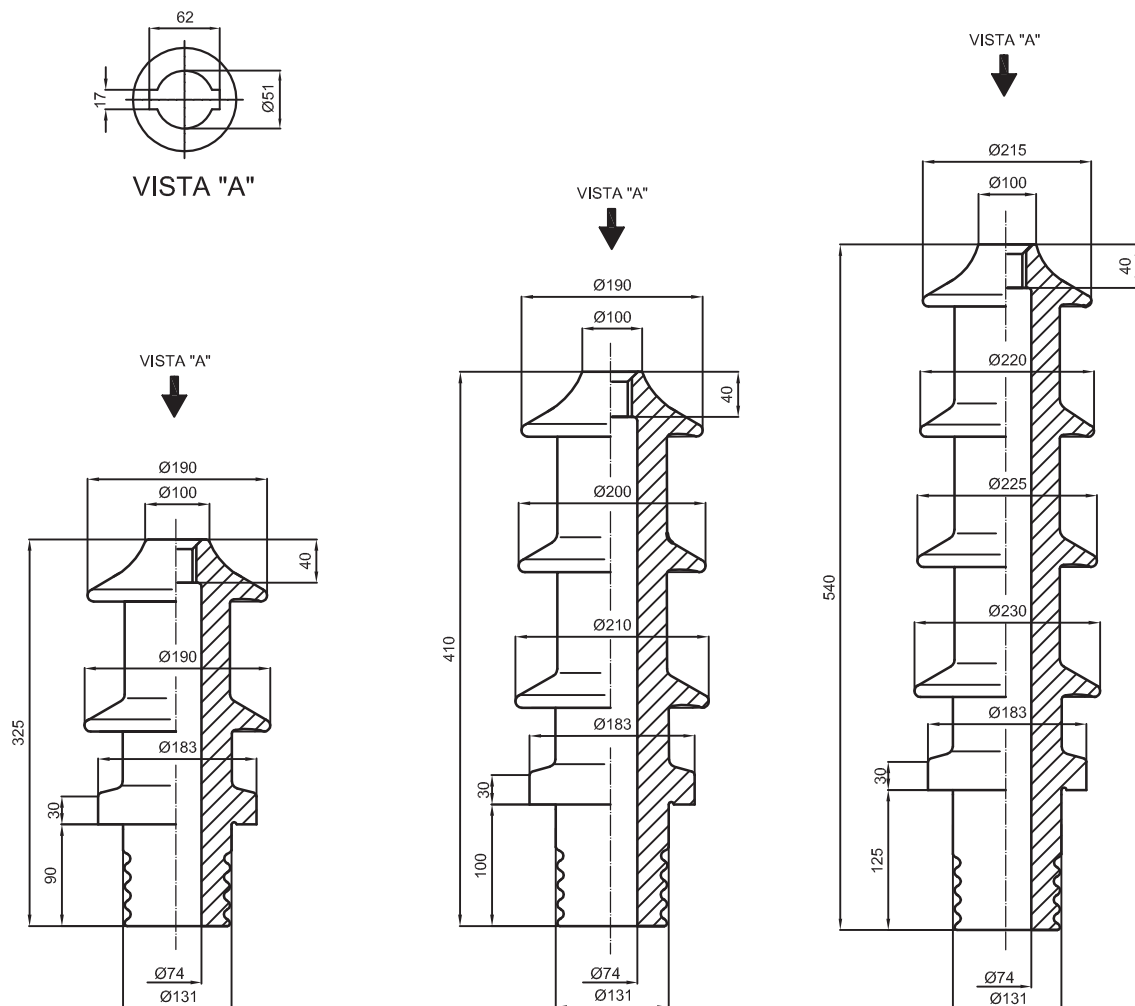
CODIGO	420004	420005	420006
CLASE	10 NF 630	20 NF 630	30 NF 630
DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	295	445	635
DISTANCIA DE ARCO / ARCING DISTANCE (mm)	85	155	220
TENSION NOMINAL / RATED VOLTAGE (V)	10÷12	20÷24	30÷36
TENSION TIPO RAYO / LIGHTNING IMPULSE WITHSTAND VOLTAGE (mm)	75	125	170
FRECUENCIA DE TENSION NO DISRRUPTIVA HUMEDA / POWER FREQUENCY WITHSTAND VOLTAGE, WET	28	50	70
PESO / WEIGTH (g)	4300	6100	8500

AISLADOR PARA PASATAPA 10-20-30KV / 1000A DIN 42533
INSULATOR FOR BUSHING 10-20-30KV / 1000A DIN 42533



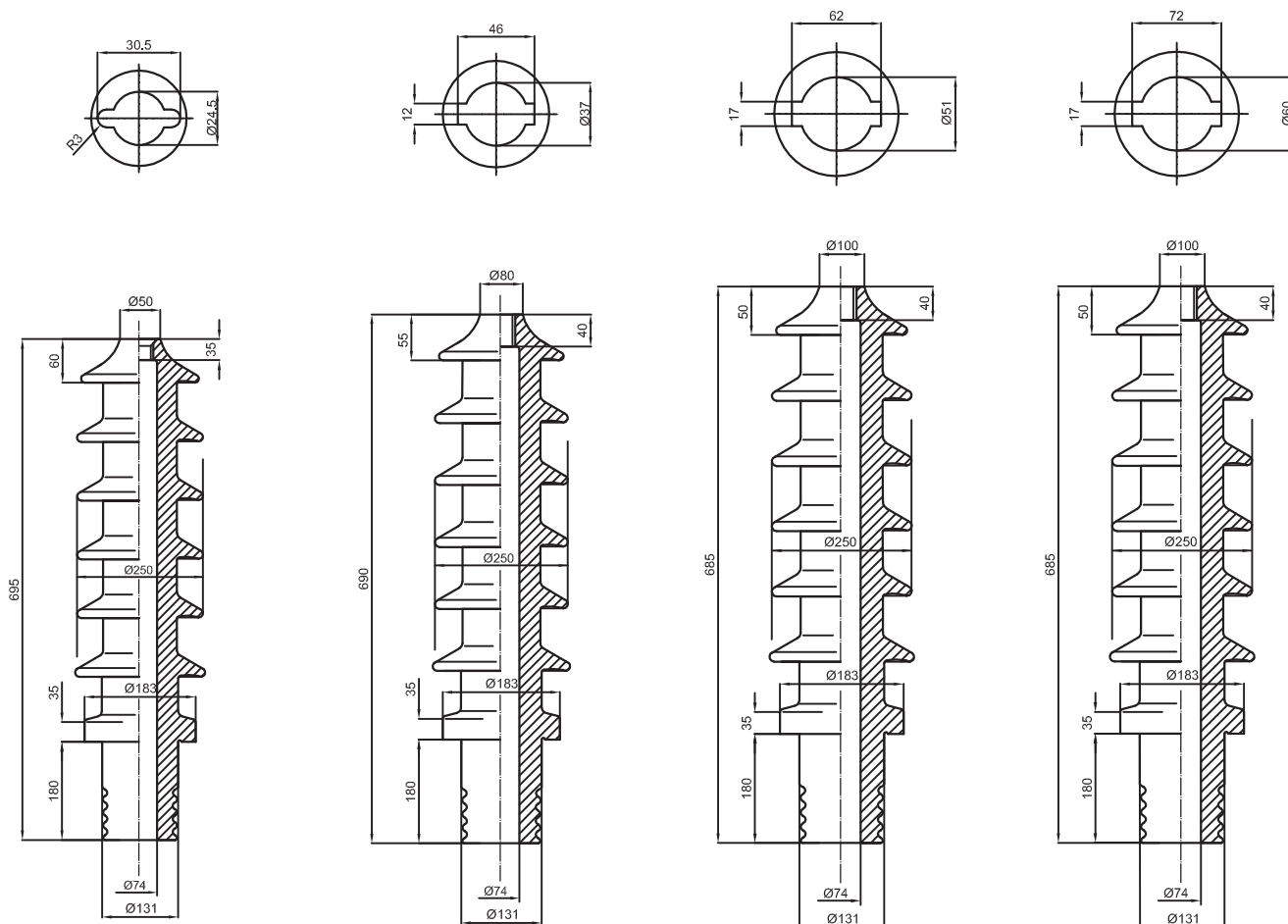
CODIGO	420001	430003	440003
CLASE	10NF1000	20NF1000	30NF1000
DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	295	445	635
DISTANCIA DE ARCO / ARCING DISTANCE (mm)	85	155	220
TENSION NOMINAL / RATED VOLTAGE (V)	10÷12	20÷24	30÷36
TENSION TIPO RAYO / LIGHTNING IMPULSE WITHSTAND VOLTAGE (mm)	75	125	170
FRECUENCIA DE TENSION NO DISRRUPTIVA HUMEDA / POWER FREQUENCY WITHSTAND VOLTAGE, WET	28	50	70
PESO / WEIGTH (g)	6300	8500	11400

AISLADOR PARA PASATAPA 10-20-30KV / 2000-3150A DIN 42533
INSULATOR FOR BUSHING 10-20-30KV / 2000-3150A DIN 42533



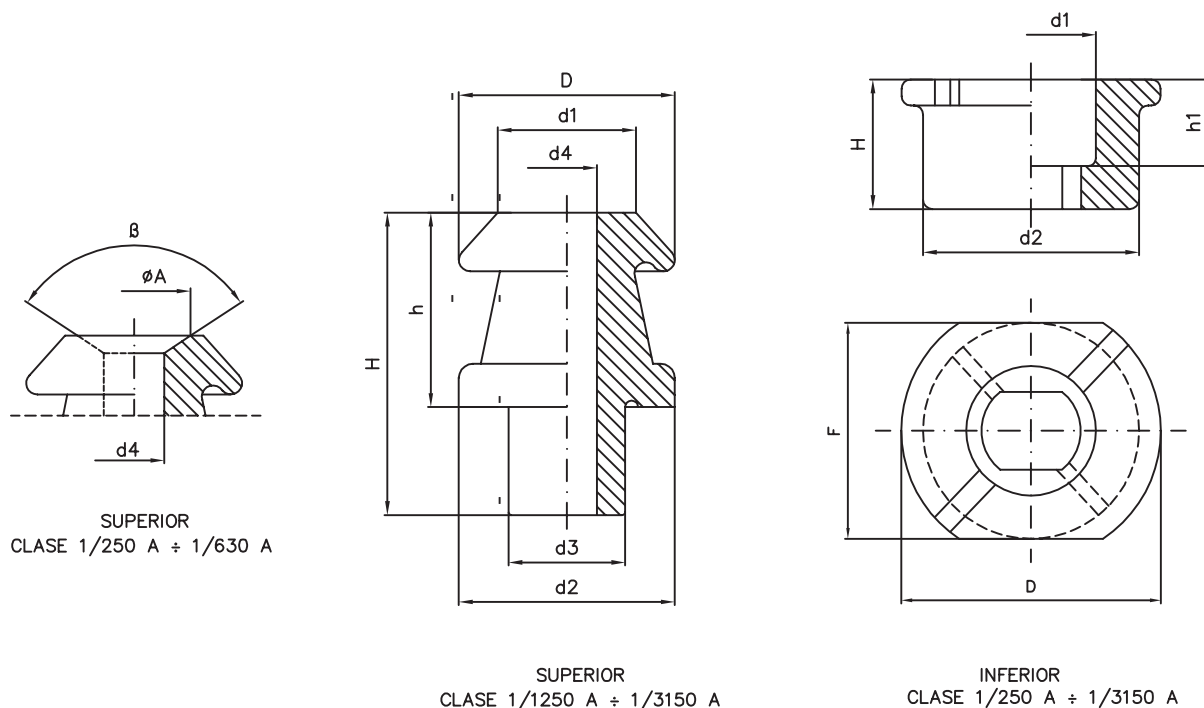
CODIGO	420003	420007	420008
CLASE	10NF3150	20NF3150	30NF3150
DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	395	445	680
DISTANCIA DE ARCO / ARCING DISTANCE (mm)	85	155	220
TENSION NOMINAL / RATED VOLTAGE (V)	10÷12	20÷24	30÷36
TENSION TIPO RAYO / LIGHTNING IMPULSE WITHSTAND VOLTAGE (mm)	75	125	170
FRECUENCIA DE TENSION NO DISRRUPTIVA HUMEDA / POWER FREQUENCY WITHSTAND VOLTAGE, WET	28	50	70
PESO / WEIGTH (g)	8000	10800	15000

AISLADOR PARA PASATAPA 52KV / 250-5000A DIN 42534
INSULATOR FOR BUSHING 52KV / 250-5000A DIN 42534



CODIGO	450001	450003	450004	450005
CLASE	250-630A	1000A	2000-3150A	4500-5000A
DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	1040	1025	1010	1010
DISTANCIA DE ARCO / ARCING DISTANCE (mm)	510	500	490	490
TENSION NOMINAL / RATED VOLTAGE (V)	52	52	52	52
TENSION TIPO RAYO / LIGHTNING IMPULSE WITHSTAND VOLTAGE (mm)	250	250	250	250
FRECUENCIA DE TENSION NO DISRRUPTIVA HUMEDA / POWER FREQUENCY WITHSTAND VOLTAGE, WET	95	95	95	95
PESO / WEIGHT (g)	23000	23000	23000	23000

**AISLADOR PARA PASATAPA 1KV / 250-3150A EN 50386
INSULATOR FOR BUSHING EN 50386**

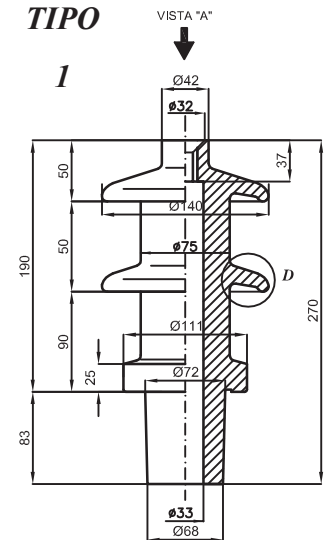


CODIGO	402026		402027		402028		402029		402030	
CLASE	1 / 250		1 / 630		1 / 1250		1 / 2000		1 / 3150	
COTAS(mm)	SUP.	INF.	SUP.	INF.	SUP.	INF.	SUP.	INF.	SUP.	INF.
H	70	30	80	30	85	35	85	35	85	35
h	45	-	55	-	55	-	55	-	55	-
h1	-	20	-	20	-	25	-	25	-	25
D	56	60	70	85	90	110	104	125	125	150
d1	-	30	-	45	-	57	-	70	-	90
d2	56	50	70	70	90	90	104	104	125	125
d3	27	-	43	-	53	-	66	-	86	-
d4	14	-	22	-	32	-	44	-	50	-
F	-	50	-	70	-	90	-	104	-	125
oA	22	-	32	-	-	-	-	-	-	-
B	120 ^g	-	120	-	-	-	-	-	-	-
DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	50	-	70	-	75	-	75	-	75	-
TENSION NOMINAL / RATED VOLTAGE (V)	250		630		1250		2000		3150	
PESO / WEIGTH (g)	160	100	380	190	640	400	820	470	1350	700

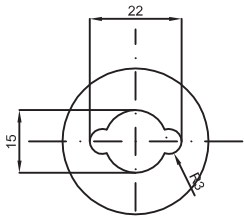
**AISLADOR PARA PASATAPA 12-24-36KV / 250A EN 50180
 INSULATOR FOR BUSHING 12-24-36KV / 250A EN 50180**

DESIGNACION / DESIGNATION	TENSION NOMINAL Ur (KV)	DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)				TIPO DE AISLADOR / INSULATOR TYPE		DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	DISTANCIA DE ARCO / ARCING DISTANCE (mm)
		NIVEL DE CONTAMINACION/ POLLUTION LEVEL				CODIGO	TIPO		
		I	II	III	IV				
12-250/p1	12	192	-	-	-	404600	1	260	145
12-250/p2	12	-	240	-	-				
12-250/p4	12	-	-	300	372	404601	2	490	260
24-250/p2	24	384	480	-	-				
24-250/p3	24	-	-	600	-	404701	3	605	315
36-250/p1	36	576	-	-	-				
24-250/p4	24	-	-	-	744	404711	4	935	465
36-250/p3	36	-	720	900	-				
36-250/p4	36	-	-	-	1116	404702	5	1165	485

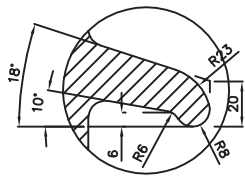
TIPO



1

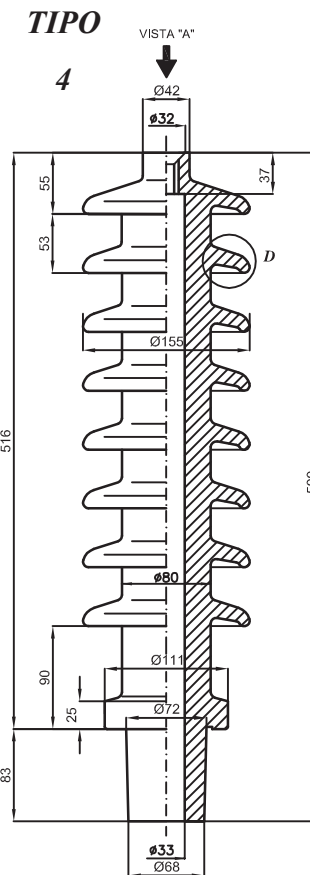


VISTA "A"



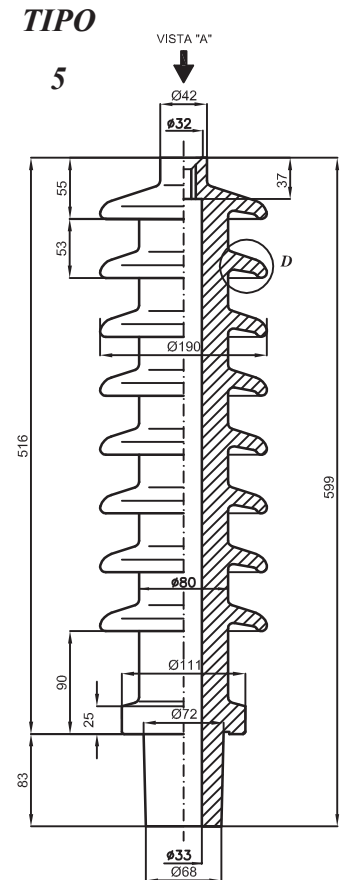
DETALLE "D"

TIPO



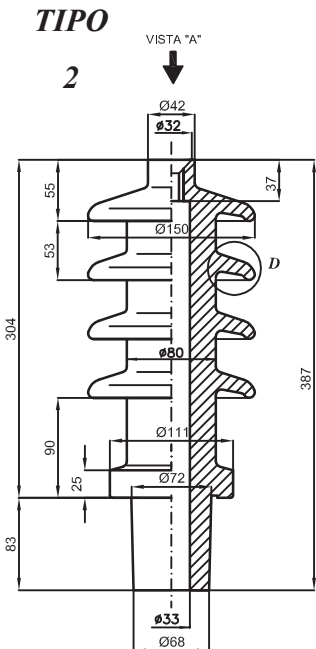
4

TIPO



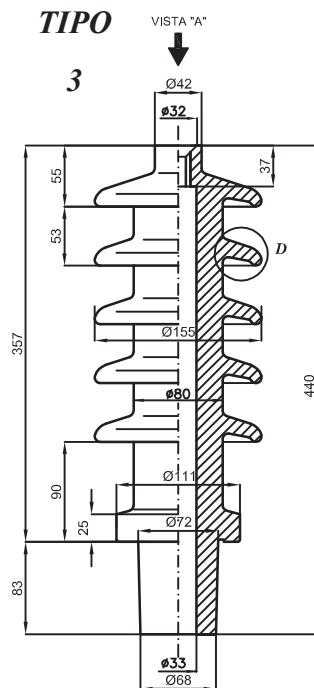
5

TIPO



2

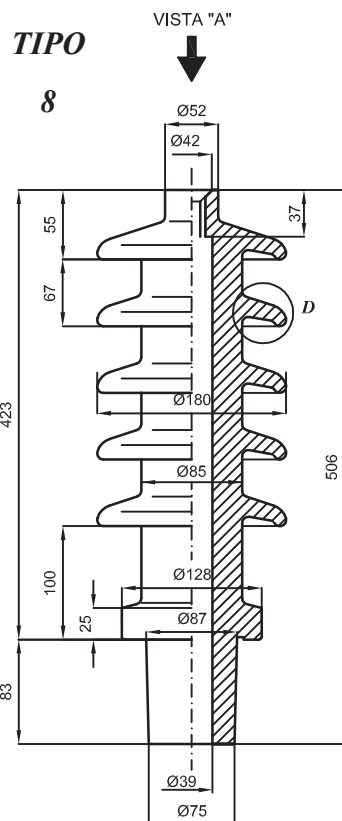
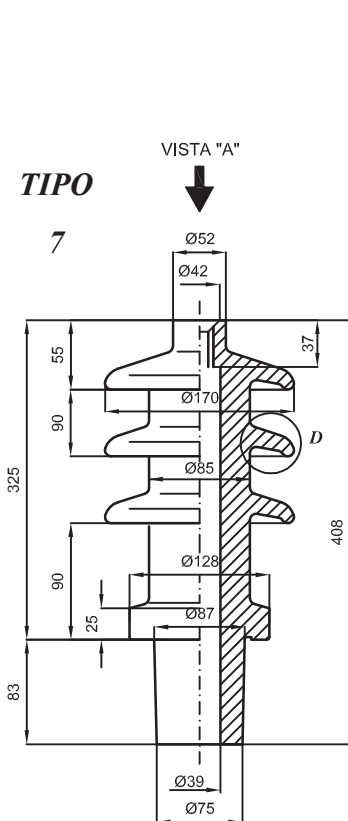
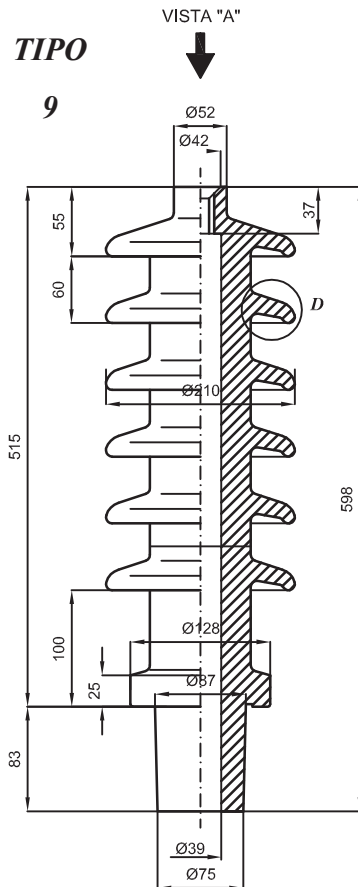
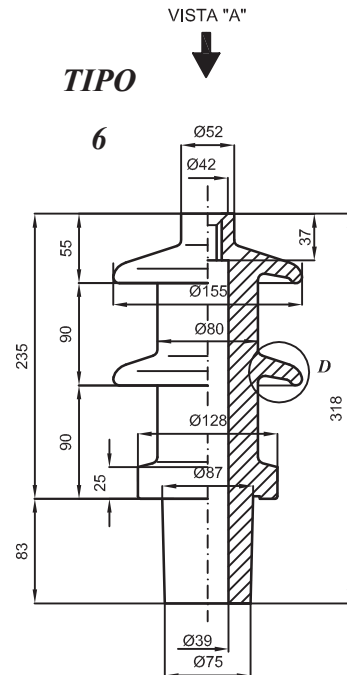
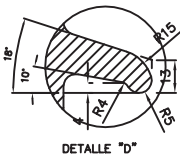
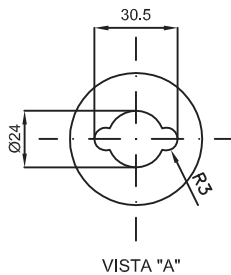
TIPO



3

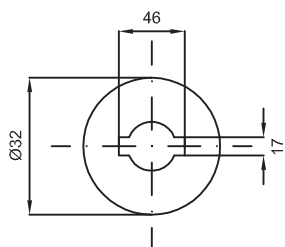
**AISLADOR PARA PASATAPA 12-24-36KV / 630A EN 50180
 INSULATOR FOR BUSHING 12-24-36KV / 630A EN 50180**

DESIGNACION / DESIGNATION	TENSION NOMINAL Ur (KV)	DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)				TIPO DE AISLADOR / INSULATOR TYPE		DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	DISTANCIA DE ARCO / ARCING DISTANCE (mm)
		NIVEL DE CONTAMINACION/ POLLUTION LEVEL				CODIGO	TIPO		
		I	II	III	IV				
12-630/p3	12	192	240	300	-	404704	6	315	190
12-630/p4	12	-	-	-	372	404703	7	490	285
24-630/p2	24	384	480	-	-				
24-630/p4	24	-	-	600	744	404602	8	760	375
36-630/p2	36	576	720	-	-				
36-630/p4	36	-	-	900	1116	410001	9	1155	475

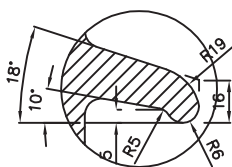


**AISLADOR PARA PASATAPA 12-24-36KV / 1250A EN 50180
 INSULATOR FOR BUSHING 12-24-36KV / 1250A EN 50180**

DESIGNACION / DESIGNATION	TENSION NOMINAL Ur (KV)	DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)				TIPO DE AISLADOR / INSULATOR TYPE		DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	DISTANCIA DE ARCO / ARCING DISTANCE (mm)
		NIVEL DE CONTAMINACION/ POLLUTION LEVEL				CODIGO	TIPO		
		I	II	III	IV				
12-1250/p4	12	192	240	300	372	440002	10	385	215
24-1250/p3	24	384	480	600	-	440005	11	620	280
24-1250/p3	24	-	-	-	744	440004	12	930	385
36-1250/p3	36	576	720	600	-				
36-1250/p4	36	-	-	-	1116	440006	13	1145	500

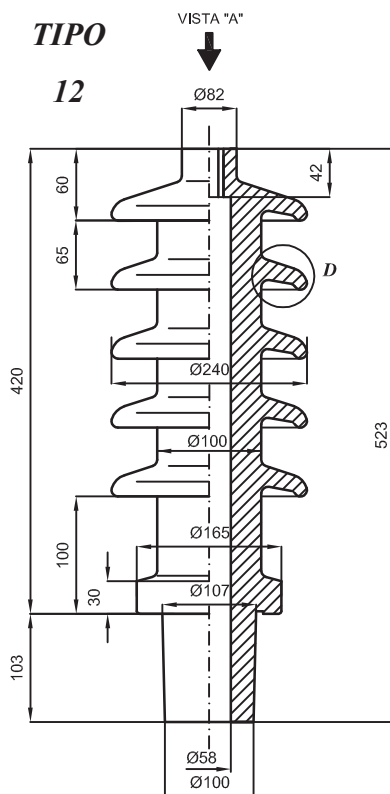
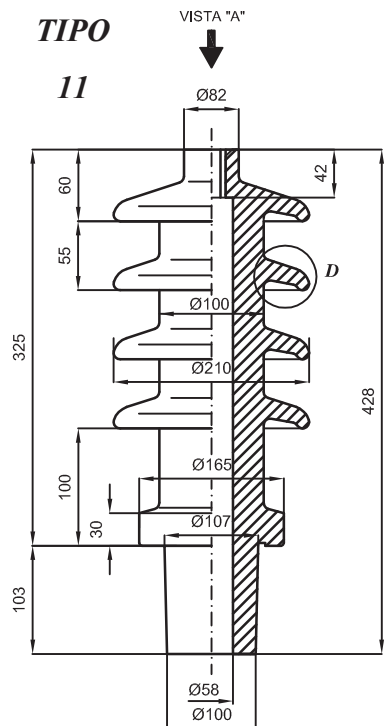
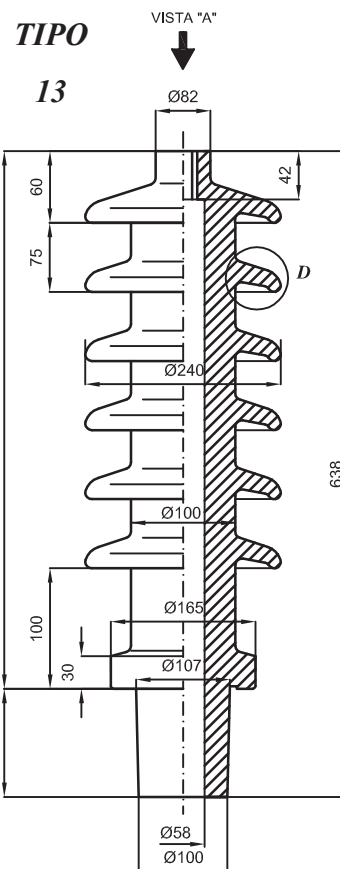
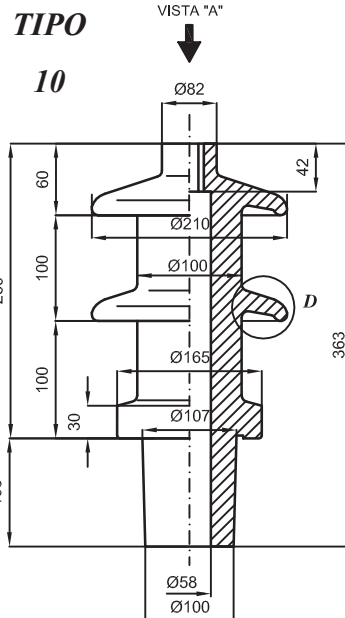


VISTA "A"



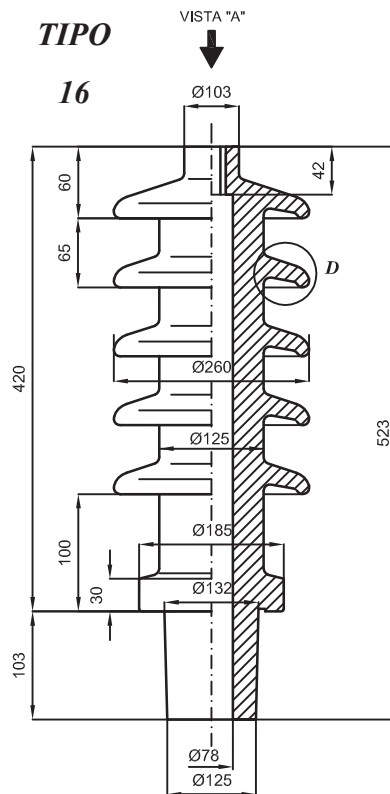
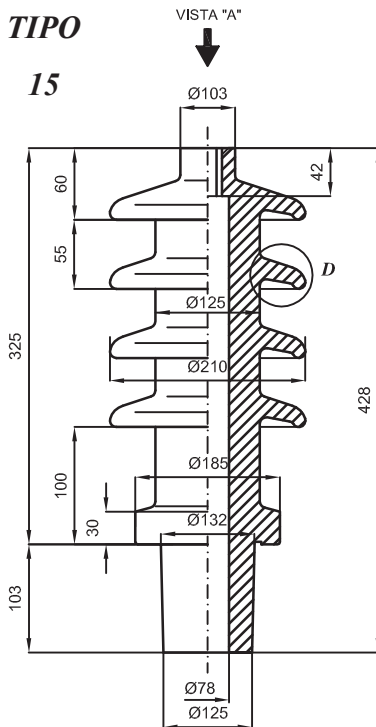
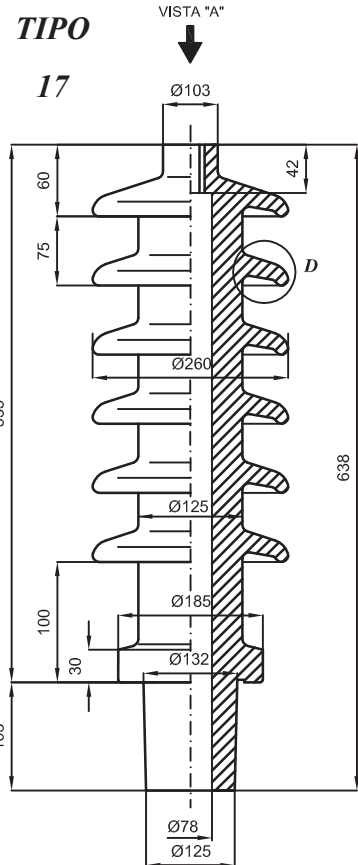
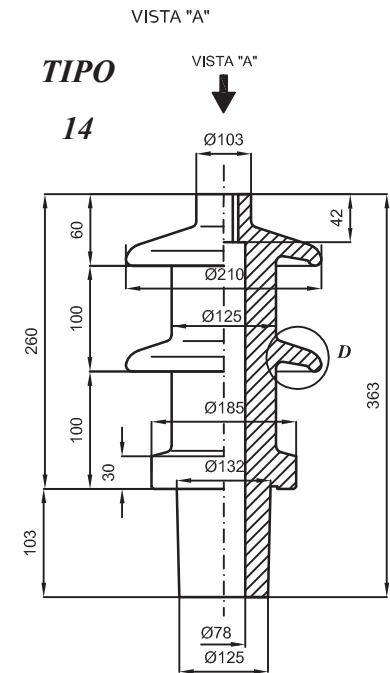
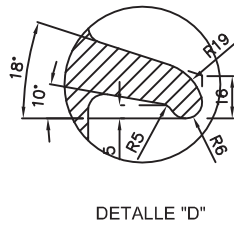
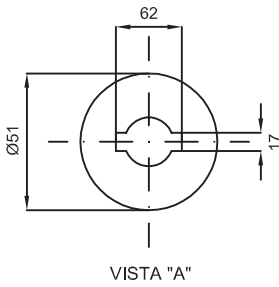
DETALLE "D"

VISTA "A"



**AISLADOR PARA PASATAPA 12-24-36KV / 2000-3150A EN 50180
 INSULATOR FOR BUSHING 12-24-36KV / 2000-3150A EN 50180**

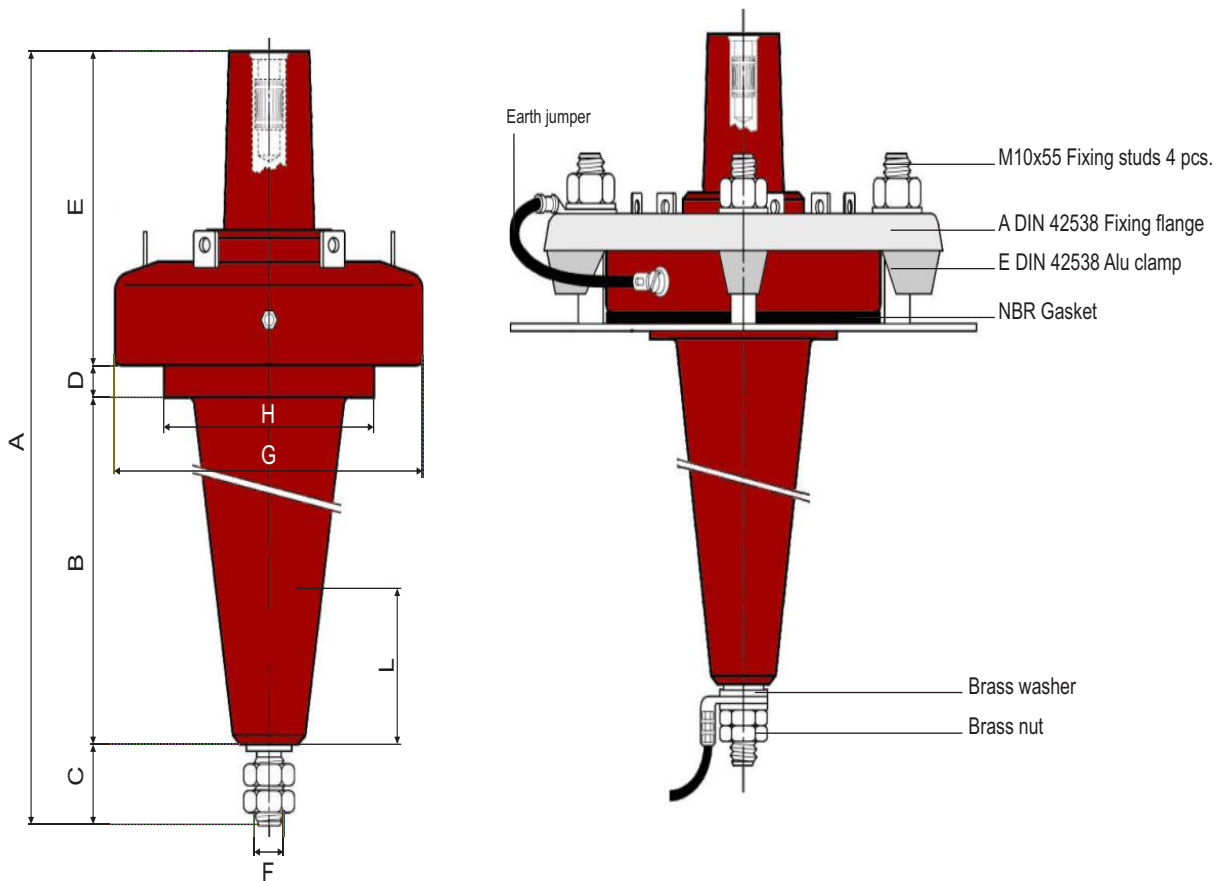
DESIGNACION / DESIGNATION	TENSION NOMINAL Ur (KV)	DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)				TIPO DE AISLADOR / INSULATOR TYPE		DISTANCIA DE FUGAS / CREEPAGE DISTANCE (mm)	DISTANCIA DE ARCO / ARCING DISTANCE (mm)
		NIVEL DE CONTAMINACION/ POLLUTION LEVEL				CODIGO	TIPO		
		I	II	III	IV				
12-2000/p4	12	192	240	300	372	410002	14	385	210
12-3150/p4	12	192	240	300	372				
24-2000/p3	24	384	480	600	-	420009	15	620	275
24-3150/p3	24	384	480	600	-				
24-2000/p4	24	-	-	-	744	410003	16	920	385
24-3150/P4	24	-	-	-	744				
36-2000/P3	36	576	70	900	744				
36-3150/P3	36	576	70	900	-	410004	17	1135	495
36-2000/P4	36	-	-	-	1116				
36-3150/P4	36	-	-	-	-				





ACCESORIOS

BORNA ENCHUFABLE DE RESINA EN 50181
PLUG IN TYPE RESIN BUSHINGS EN 50181



TIPO DE AISLADOR	A	B	C	D	E	F	G	H
12-24 250A CORTO	190	73,5	21	8,5	85	M10	Ø110	Ø75
12-24 250A STANDART	223	108,5	21	8,5	875	M10	Ø110	Ø75
12-24-36 400A CORTO	243	72	23,5	17	129	M12	Ø127	Ø75
12-24-36 400A STANDART	316	127	41,5	17	129	M16	Ø127	Ø88
12-24-36 630A STANDART	320	127	47	17	129	M16	Ø127	Ø88



ARO DE BRIDA 250A ACERO INOX.
PIEZA DE PRESION 250A-630A
RING FLANGE STAINLESS STEEL 250A.
PRESSURE PIECE 250A-630A.

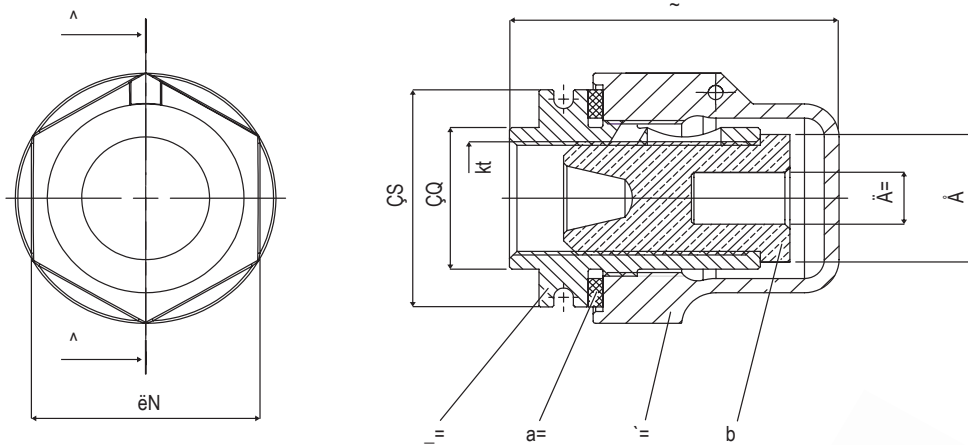


ARO DE BRIDA 630A ACERO INOX.
PIEZA DE PRESION 250A-630A
RING FLANGE STAINLESS STEEL 630A.
PRESSURE PIECE 250A-630A.



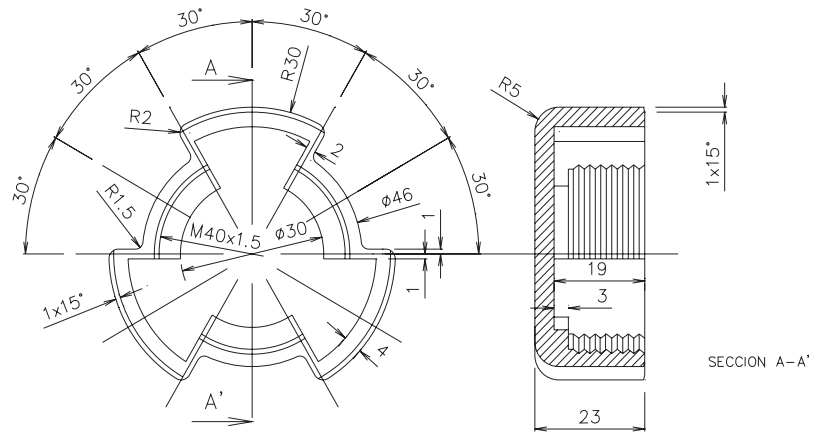
ARO DE BRIDA 2000A-3150A ALUMINIO
PIEZA DE PRESION 1000A-3150A
RING FLANGE-3150A 2000A ALUMINUM.
PRESSURE PIECE 1000A-3150A.

VALVULA DE VACIADO DEPOSITO DE ACEITE DIN 42551A
OIL DRAINING DEVICE DIN 42551

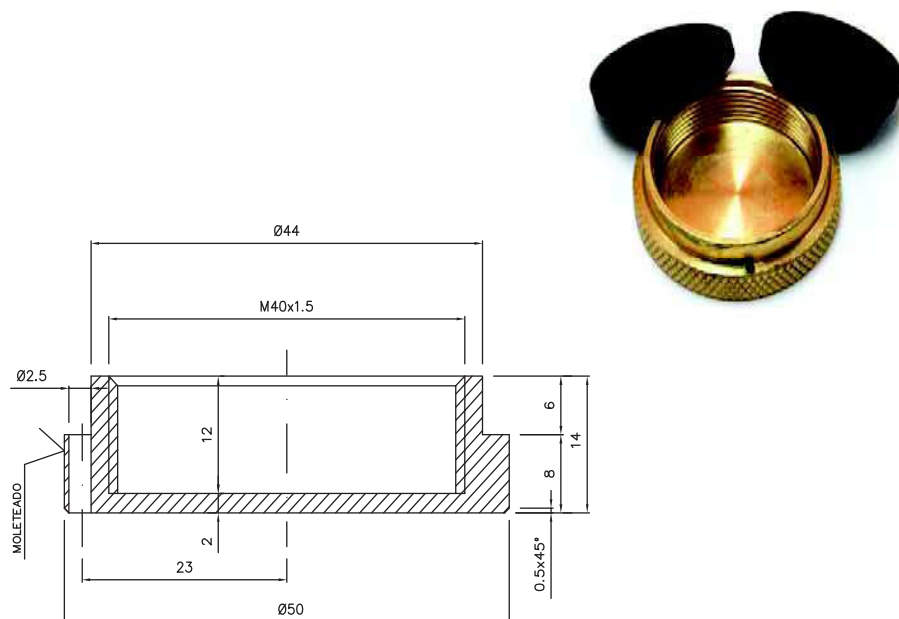


NW	a	d4	b	c	s1/d6
NW22	67	30	11	SW27	SW46
NW31	93	40	17	SW36	SW65
NW40	112	52	17	SW46	SW80

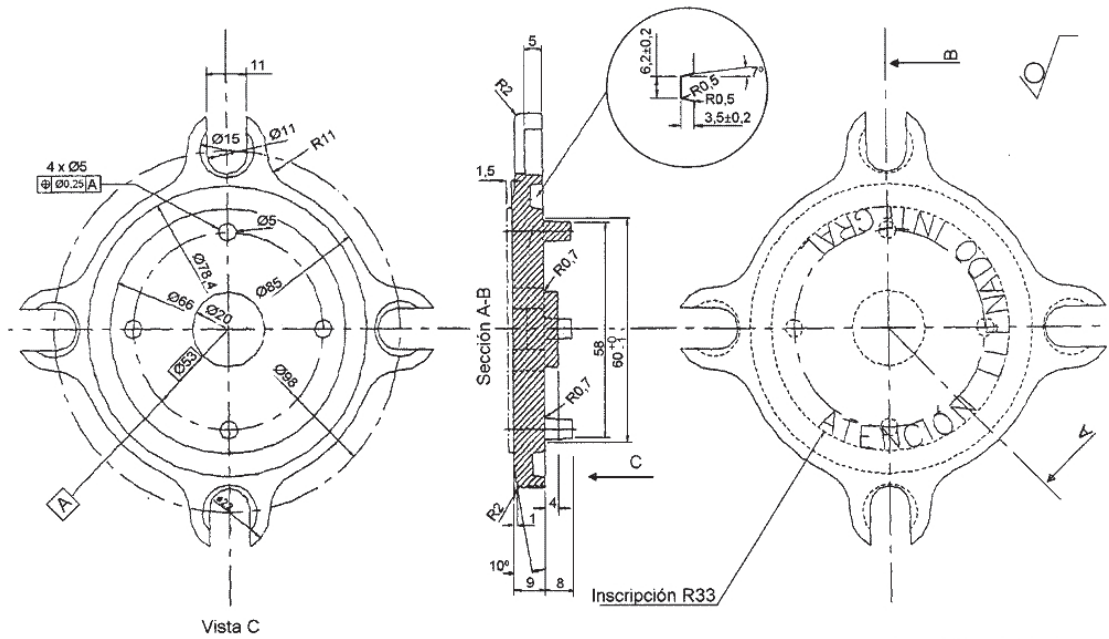
TAPON DE LLENADO DIN
FILLING PLUG DIN



TAPON DE LLENADO UNE CON PRECINTO
FILL PLUG SEAL UNE



TAPA DE LLENADO UNE 21428
FILLER CAP UNE 21428.



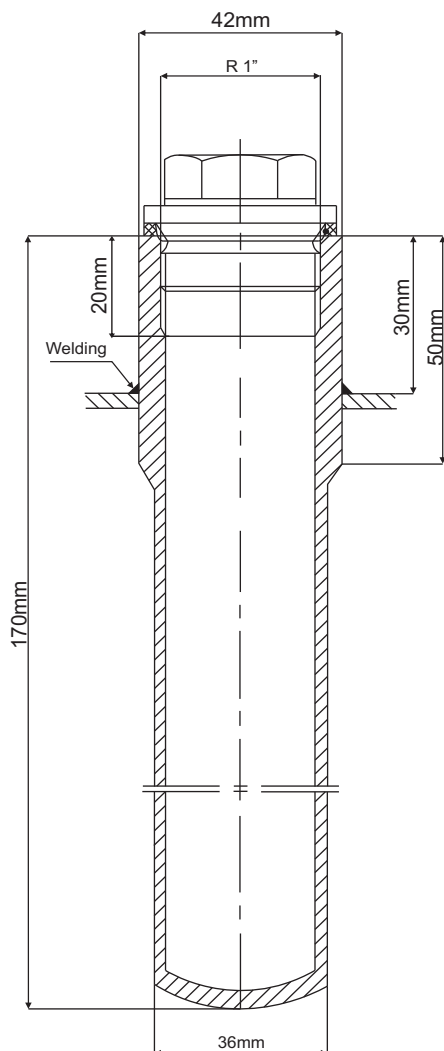
TAPA NIVEL 120 ACERO INOX.
TOP LEVEL 120 STAINLESS STEEL.



TAPA NIVEL 120 ACERO INOX.
TOP LEVEL 120 STAINLESS STEEL.



TERMOMETRO DIN 42554
THERMOMETER DIN 42554



Funda de Termómetro (tapón y junta solicitar adicional)



Termómetro 2-contactos





***OTROS
ACCESORIOS***



APPLICATION

Suitable for incorporation in filling pipes with R1½ internal thread.

This type of magnetic oil level indicator is used in hermetically sealed transformers without gas cushion. It shows the level of the oil in the filling pipe and thus offers the possibility to monitor for:

- Gas formation in the transformer
- Accumulations of air pockets in the tank
- Indication of large leaks from the tank

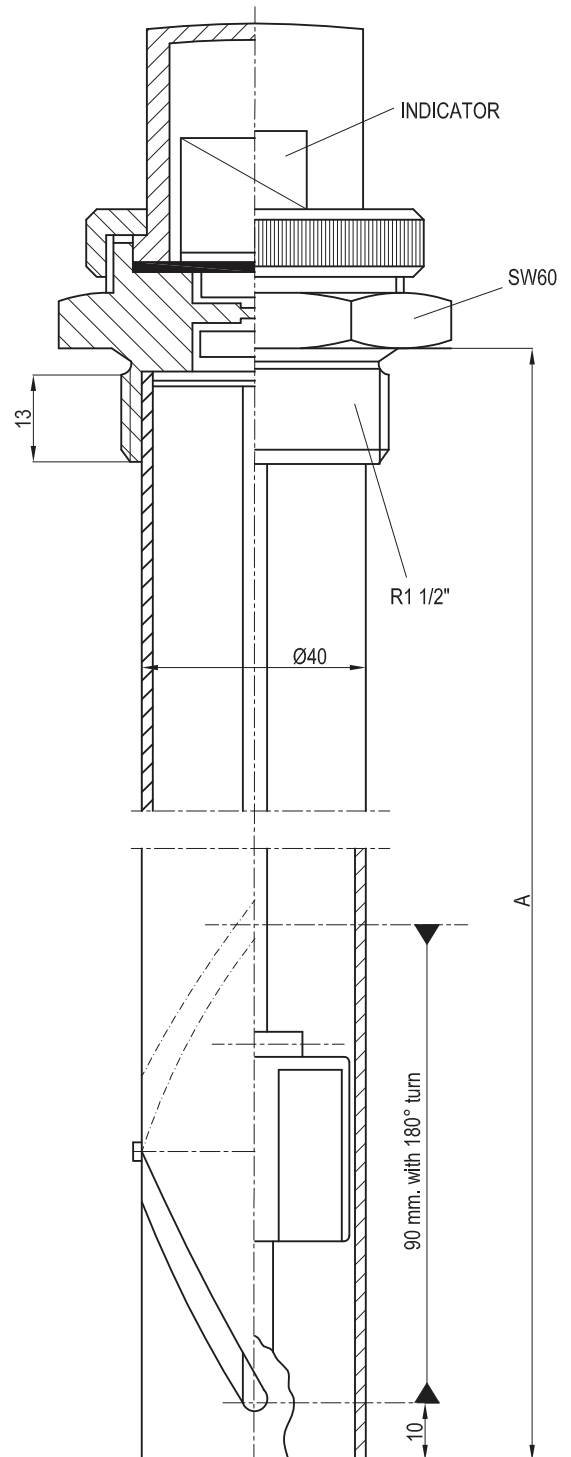
When incorporated in hermetically sealed transformers with nitrogen gas cushioning it is only possible to monitor for large leaks from the tank.

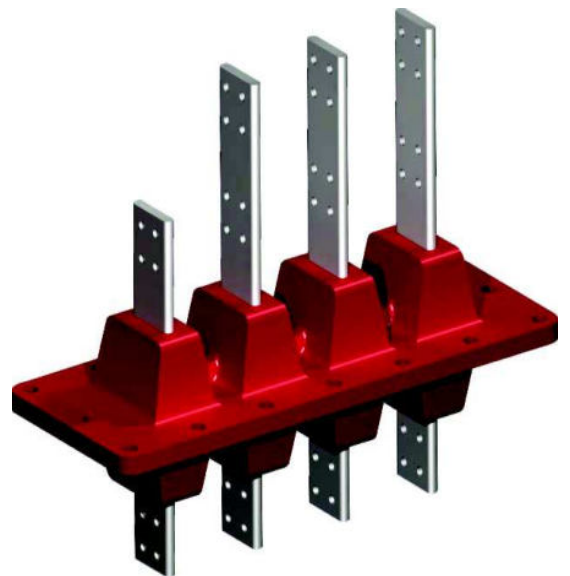
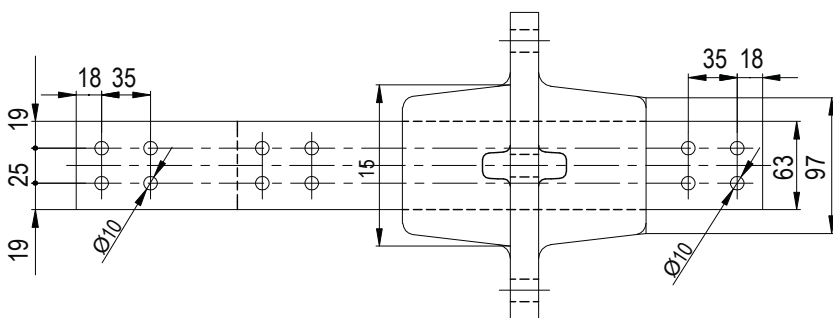
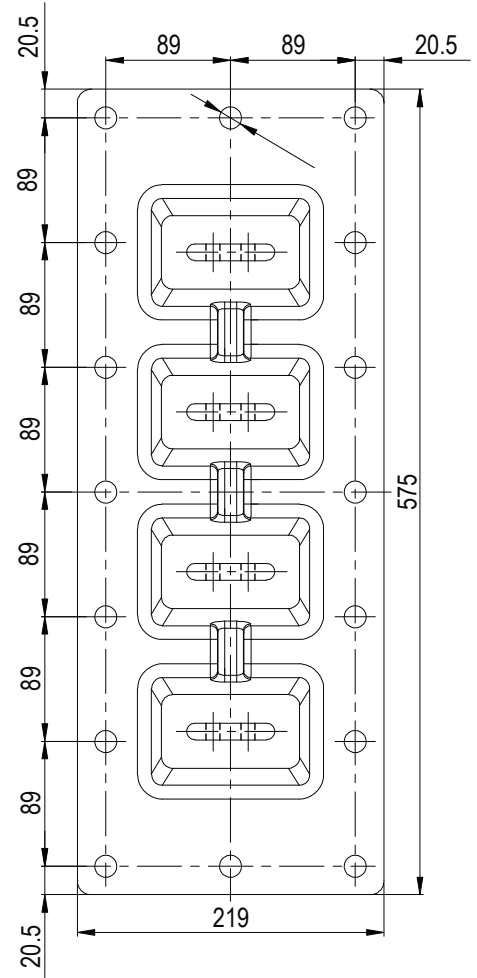
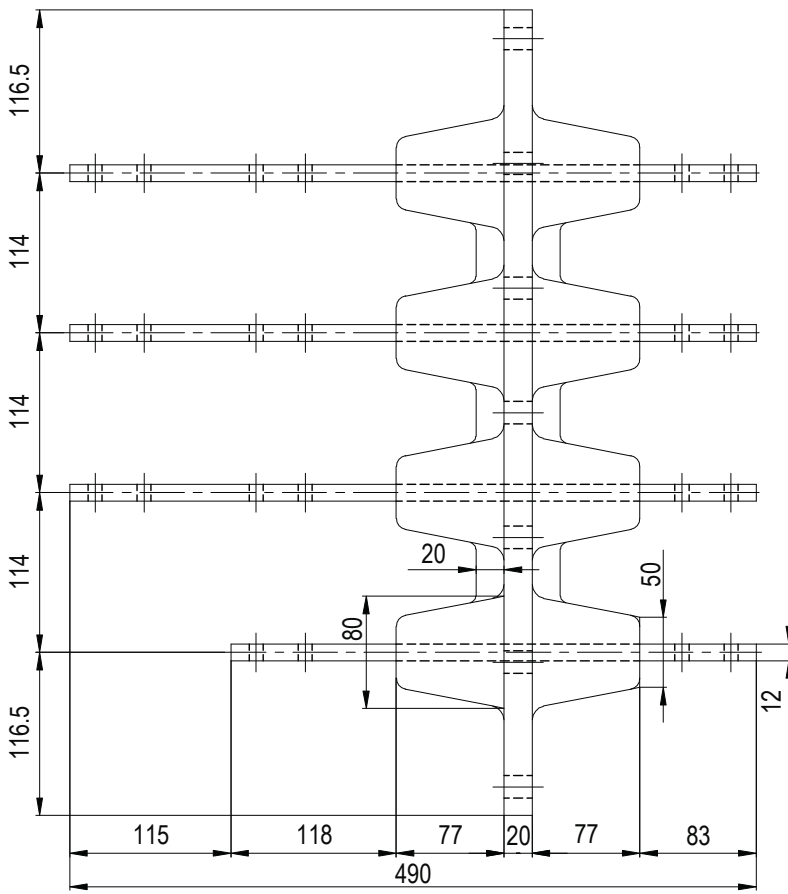
ASSEMBLY

The oil level indicator is screwed into the filling pipe. The indicating device must be adjusted in the following manner: After first unscrewing the ring nut, take off the viewing dome, remove the sealing ring and lift out the indicator scale complete with the upper magnet. The indicator scale can now be moved into the correct position by loosening the centre screw. With the transformer properly filled only the white indicator should be visible in the indicating field so that if the fluid level falls the red warning signal appears.

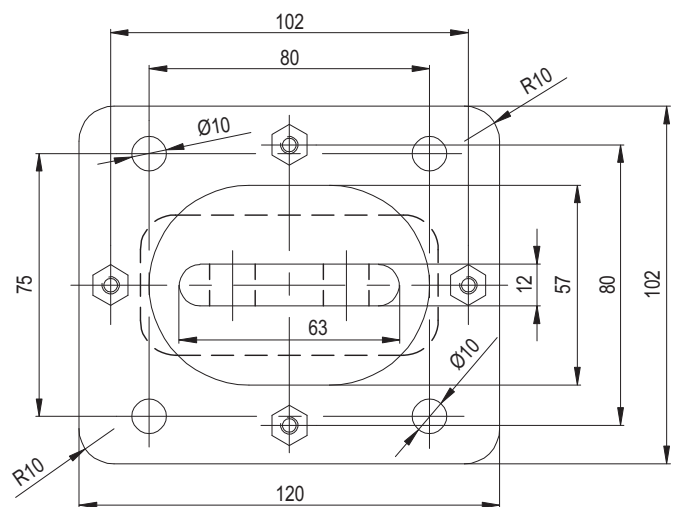
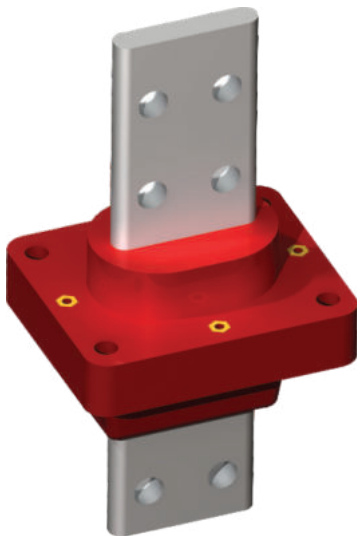
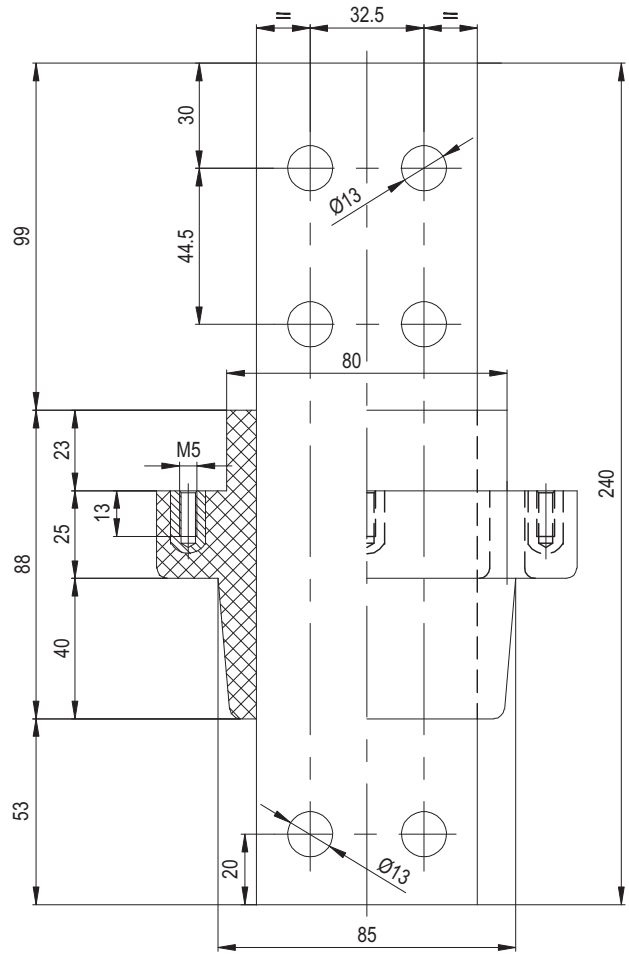
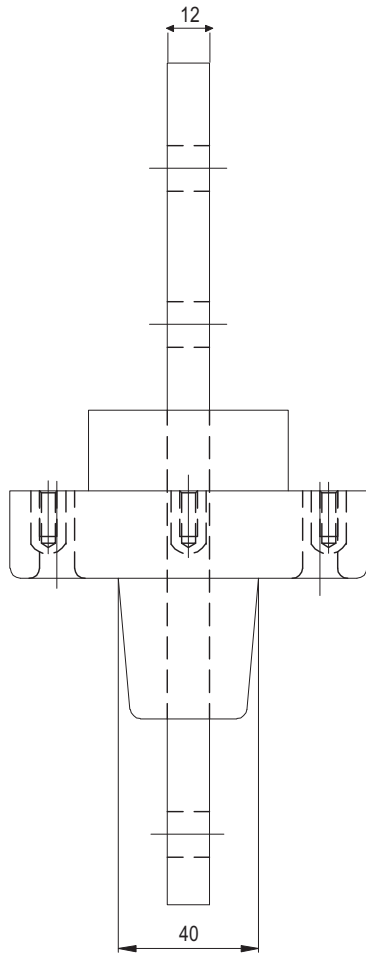
After tightening the centre screw the indicator is reassembled in the reverse sequence. Once adjustment has been made it remains the same even if the instrument is removed and replaced several times, since it always locks in the same position due to pair of built-in magnets.

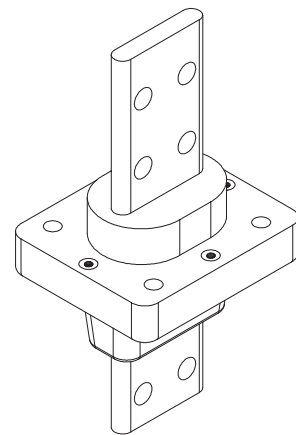
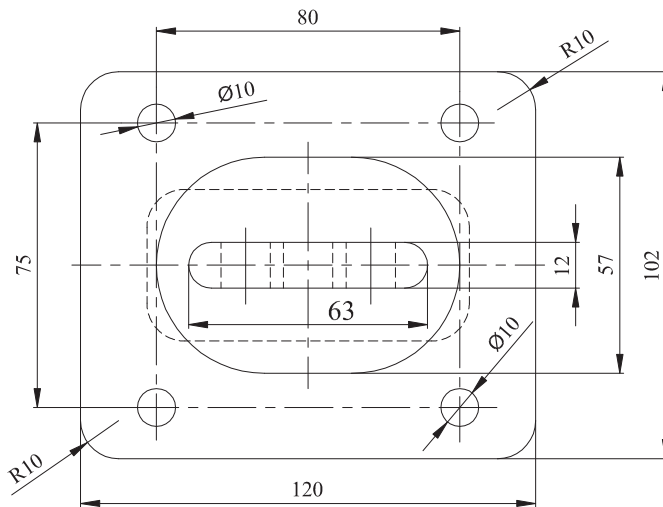
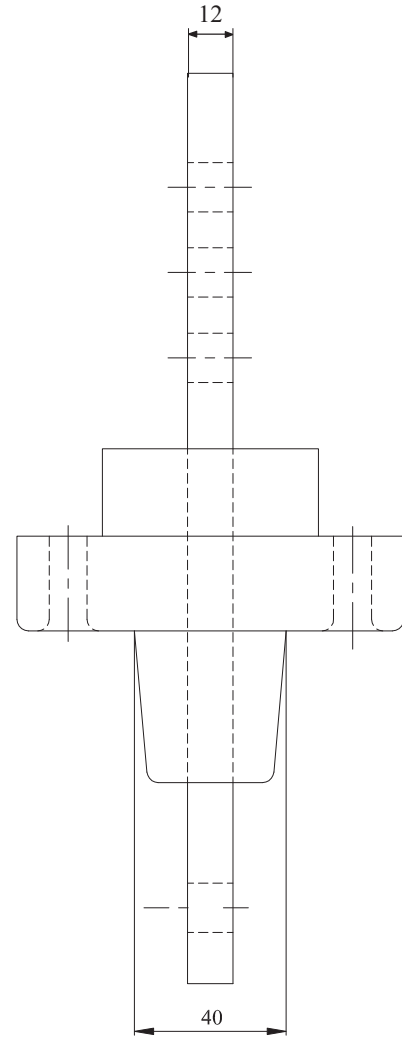
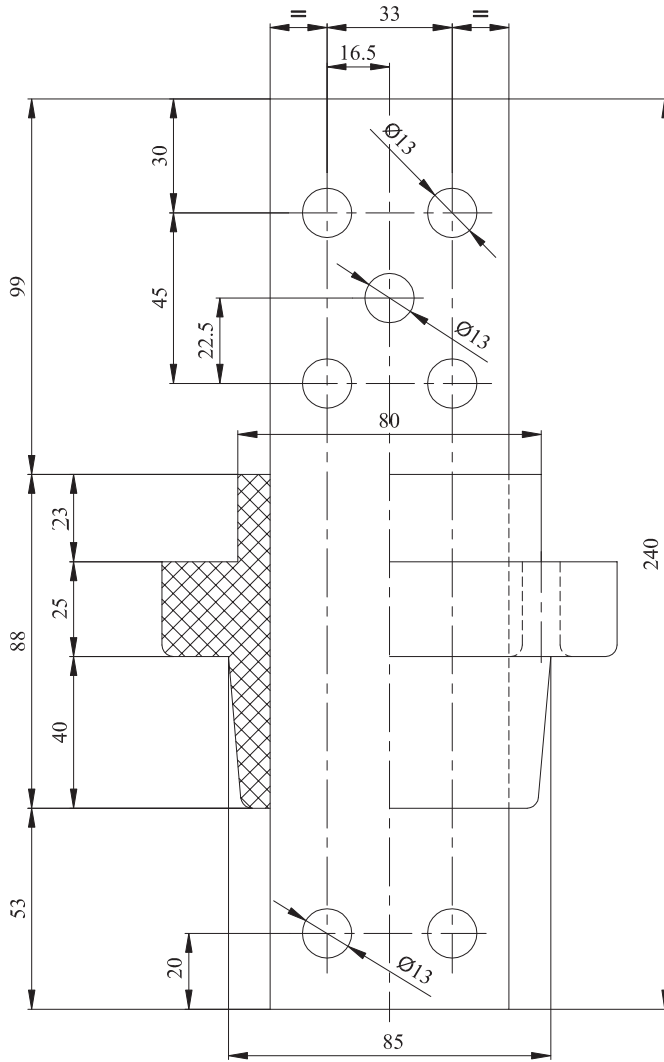
Once adjusted the instrument must be sealed to prevent unauthorized alteration of the setting.

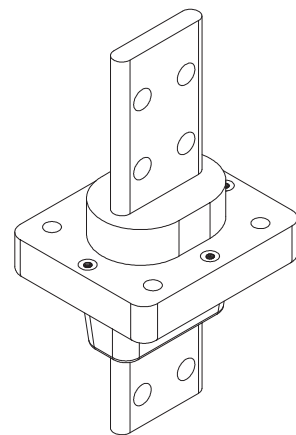
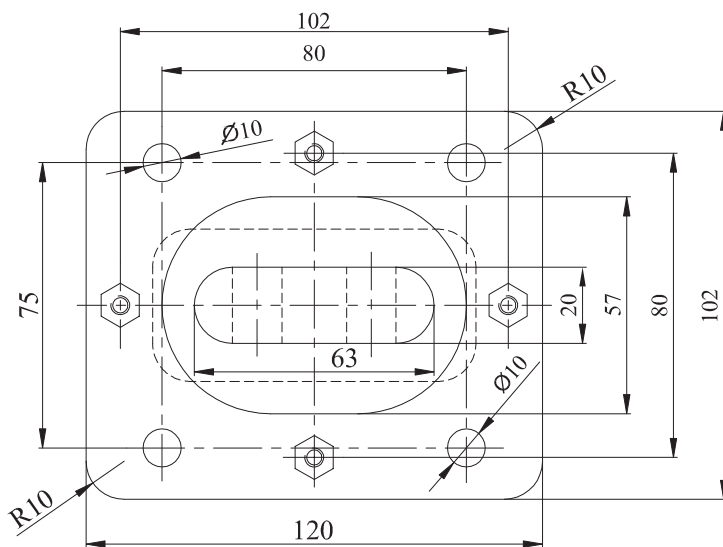
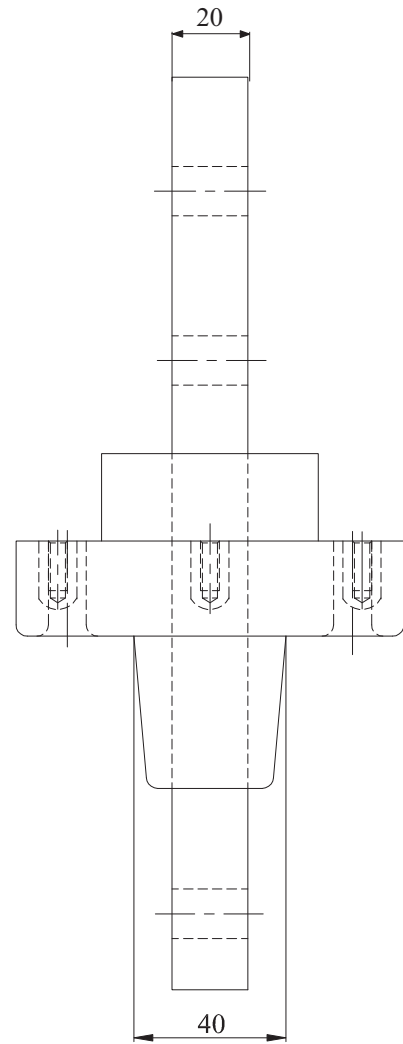
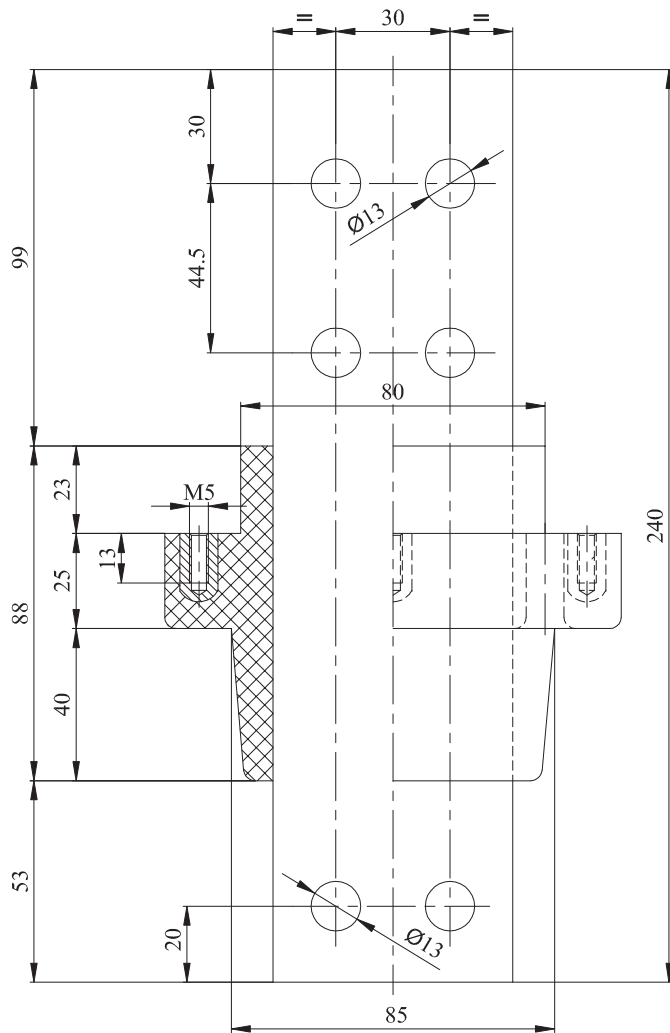




Insulator bus-bar LT (single phase) in resin for 1kV/1250A for transformer

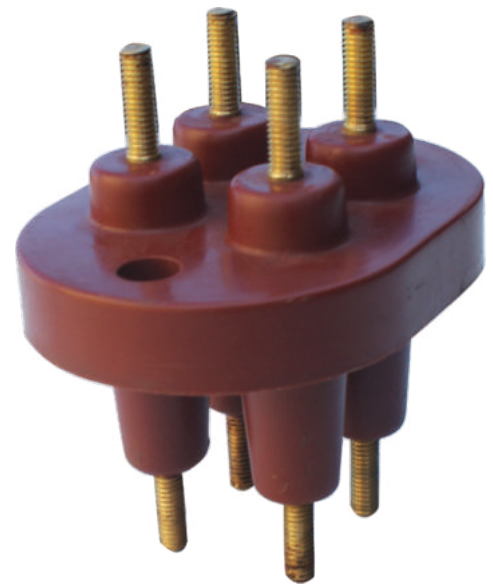
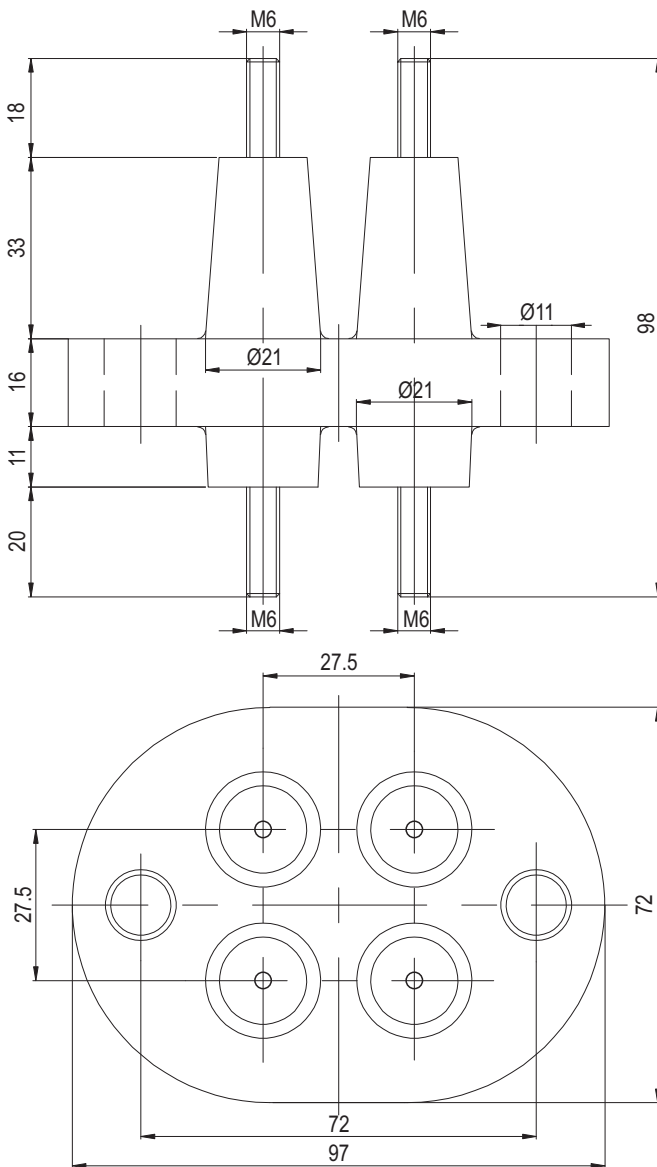






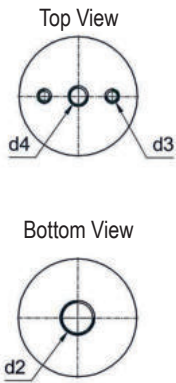
Multi Stud Bushing for 4pins

Manufactured from Epoxy Resin with four brass studs M6 on both end, and two chamfered holes to allow it to be bolted to the tank. It is required to use the correct amount of nuts and washers to suit the correct number of CT terminals being used. Tighten nuts to 2lbs/ft of torque using a calibrated torque wrench.





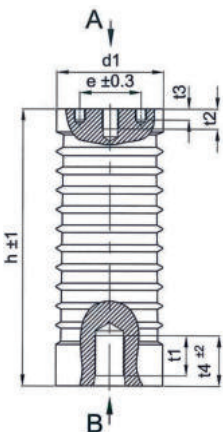
Acc.to VDE 0674 - (1993), VDE 0111 - (1980)



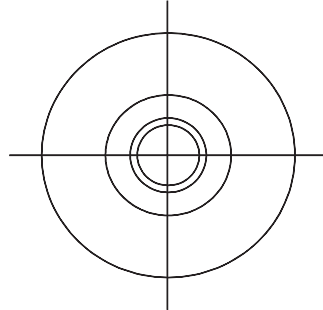
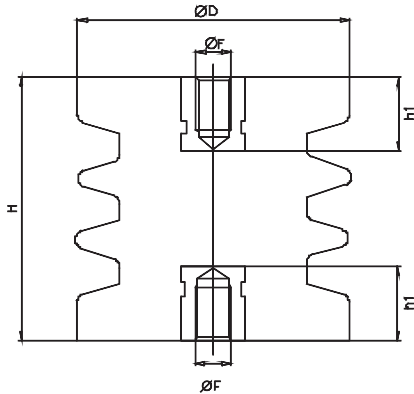
Part No	Type	Um (kV)	Min. Creepage (mm)	Ripples	Bending Strength (N)	Tensile Strength (N)	h	e	d1	d2	d3	d4	t1	t2	t3	t4	Weight (kg)	PCS/Box
1000142	A10S-500	7,2	130	2	5000	17.500	95	36	58	M16	M6	M10	26	20	10	38	0,39	16
1000145	B10S-1000		128	2	10000	30.000		46	71	M16	M10	M16	26	30	12	35	0,65	9
1000137	A10N-500	12	165	4	5000	20.000	130	36	56	M16	M6	M10	30	20	10	45	0,52	16
1048515	B10N-1000		187	5	10000	30.000		46	77	M20	M10	M16	35	30	12	47	1,00	9
1052160	C10N-1600	17,5	191	5	16000	40.000	175	66	90	M20	M10	M16	40	33	16	55	1,35	9
1000165	A20S-500		242	6	5000	20.000		36	70	M16	M6	M10	30	20	10	42	1,00	16
1000169	B20S-1000	24	237	6	10000	30.000	210	46	83	M20	M10	M16	35	30	12	47	1,50	9
1000178	A20N-500		303	6	5000	20.000		36	70	M16	M6	M10	30	20	10	45	1,10	16
1000181	B20N-1000	36	307	8	10000	30.000	300	46	85	M20	M10	M16	35	30	12	47	1,90	9
1042542	A30N-500		465	11	5000	20.000		36	74	M16	M6	M10	35	20	10	47	2,00	9
1000201	B30N-1000	36	488	11	10000	30.000	300	46	95	M24	M10	M16	45	30	12	57	3,00	6
1000204	C30N-1600		453	11	16000	40.000		66	115	M30	M10	M16	45	30	12	68	4,80	6

Um: Highest voltage for equipment

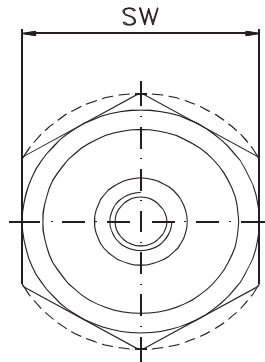
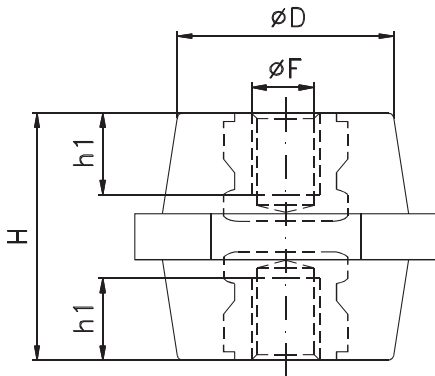
Acc.to IEC 60273 - (1990), IEC 60660 - (1999)



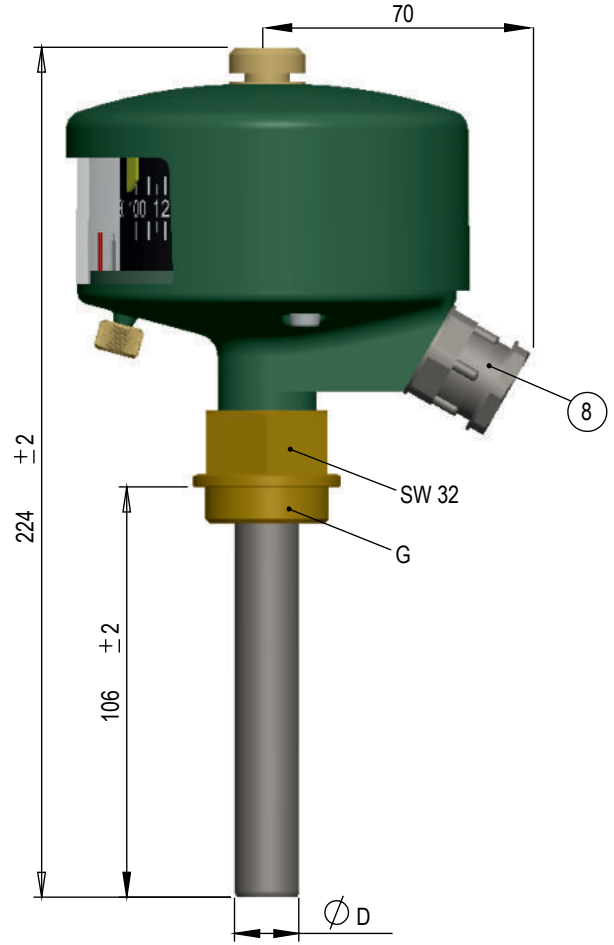
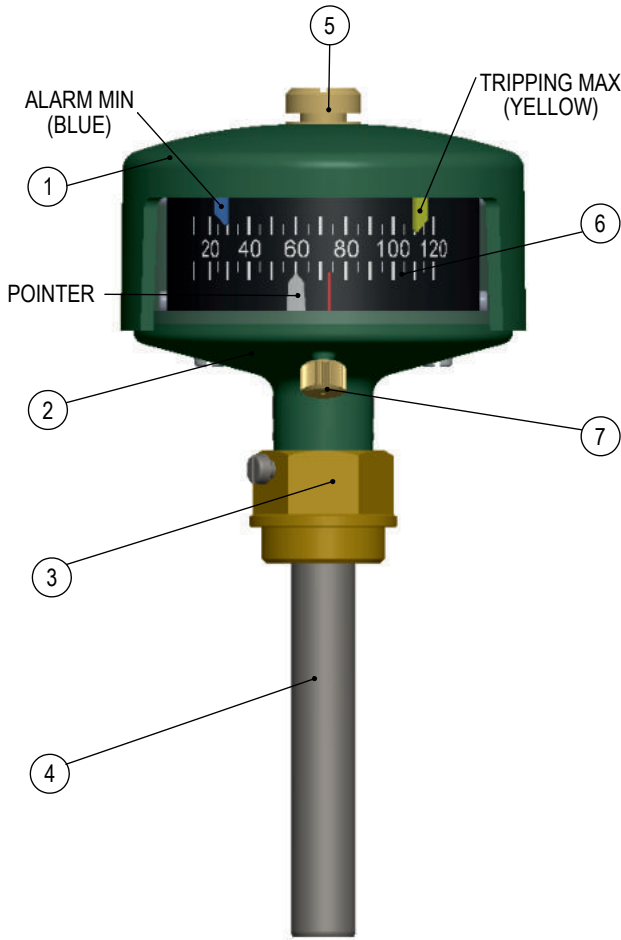
Part No	Type	Um (kV)	Min. Creepage (mm)	Ripples	Bending Strength (N)	Tensile Strength (N)	h	e	d1	d2	d3	d4	t1	t2	t3	t4	Weight (kg)	PCS/Box
1000218	J06-60	7,2	130	2	6000	17.500	95	36	58	M16	M6	M12	26	18	9	38	0,38	32
1000145	J010-60		128	2	10000	30.000		46	71	M16	M10	M16	26	30	12	35	0,65	9
1000139	J06-75	12	165	4	6000	20.000	130	36	56	M16	M6	M12	30	18	9	45	0,49	16
1048515	J010-75		187	5	10000	30.000		46	77	M20	M10	M16	35	30	12	47	1,00	9
1000167	J06-95	17,5	242	6	6000	20.000	175	36	70	M16	M6	M12	30	18	9	42	1,00	16
1000169	J010-95		237	6	10000	30.000		46	83	M20	M10	M16	35	30	12	47	1,40	9
1000179	J06-125	24	303	6	6000	20.000	210	36	70	M16	M6	M12	30	18	9	45	1,10	16
1000181	J010-125		307	8	10000	30.000		46	85	M20	M10	M16	35	30	12	47	1,82	9
1042540	J06-170	36	465	11	6000	20.000	300	36	74	M16	M6	M12	35	18	9	47	2,00	9
1000201	J010-170		488	11	10000	30.000		46	95	M24	M10	M16	46	30	12	58	3,00	6
1000203	J016-170	453	11	16000	40.000	66	115	M24	M10	M16	46	30	12	69	4,80	6		



Part No.					Min. Creepage (mm)	Ripples	Service Voltage ~kV	Test Voltage ~kV	Max. Tightening Torque Nm	Torque Strength Nm	Weight kg/100 pcs.	Box Qty.
	H	øF	øD	h1								
1N-500	60	M10	55	14	93	2	3	15	40	75	23.90	50
		M10		18								
1N-1000	80	M12	83	20	123	3	5	25	70	75	64.10	8
		M16		20								

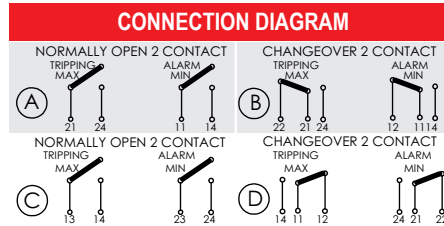


Part No.						Service Voltage ~kV	Test Voltage ~kV	Cantilever Strength kN	Tensile Strength kN	Max. Tightening Torque Nm	Torque Strength Nm	Weight kg/100 pcs.	Box Qty.
	H	øF	SW	øD	h1								
SK-303008	30	M8	30	26	8	1.5	10	3	6	20	40	5.30	80
SK-303010		M10		9	3			6	30	40	5.10		
SK-404008	40	M8	40	35	10	2	15	5	8	20	40	10.70	75
SK-404010		M10		12	6			10	40	75	11.50		
SK-505010	50	N10	50	42	14	2	15	7	14	40	75	19.00	50
SK-505012		M12		15	9			12	70	125	20.10		
SK-606010	60	M10	60	43	14	3	15	6	18	40	75	38.00	24
SK-606012		M12		16	9.5			25	70	105	38.50		



THE ORDERED BI-METAL THERMOMETER IS:

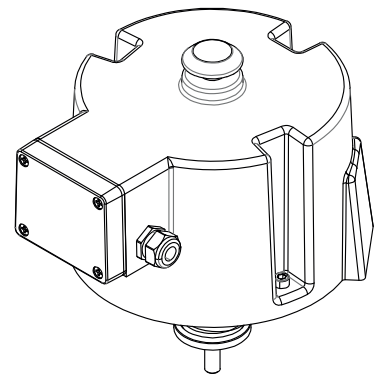
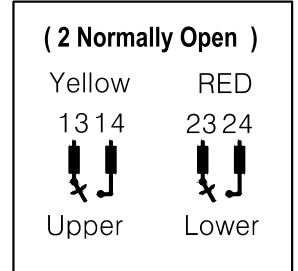
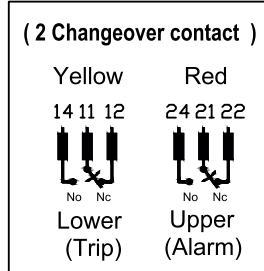
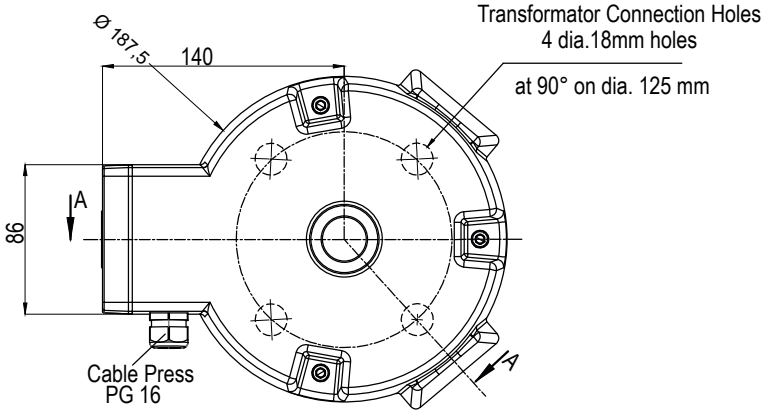
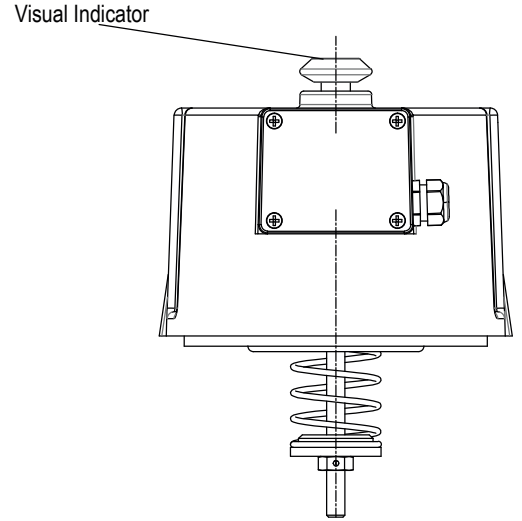
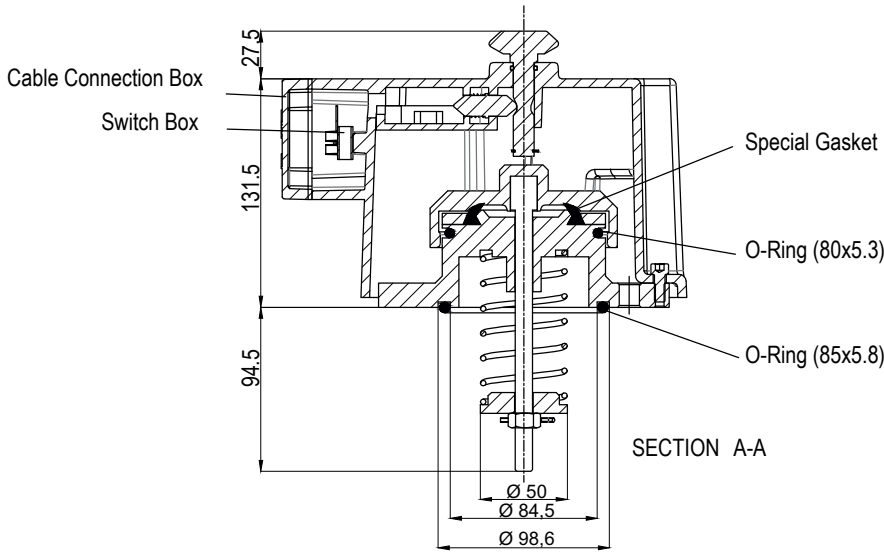
DIMENSION TABLE			
TYPES	G	Ø D	
(A) TEK14	1/2"	15	
(B) TEK16	1"	17	
(C) TEK16*	3/4"	17	



COLOUR SCALE	
(A)	RAL 7033
(B)	RAL 7032
(C)	RAL 7035
(D)	RAL 7001

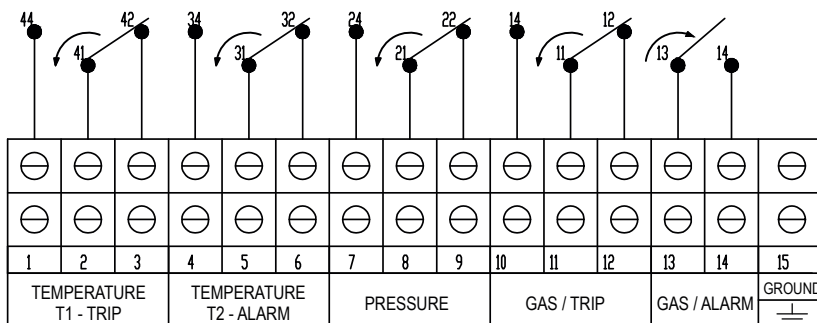
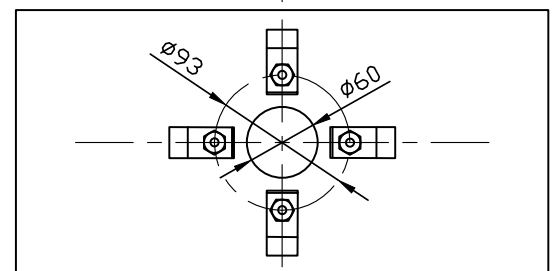
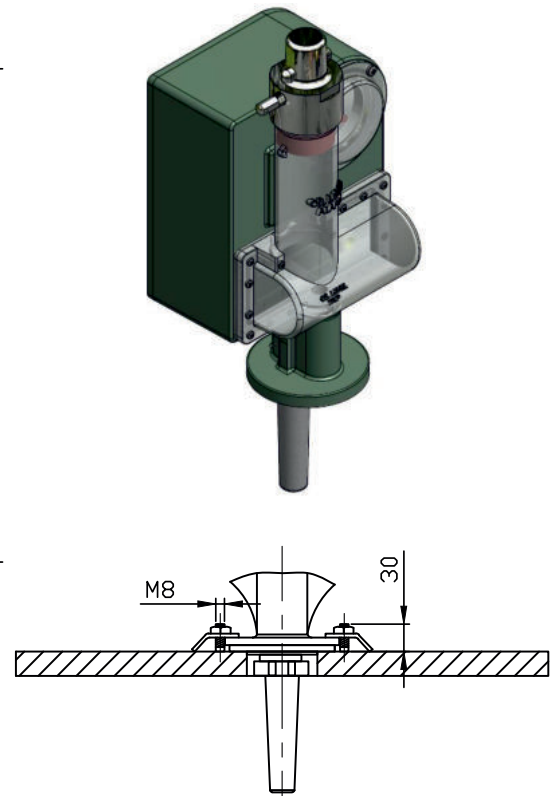
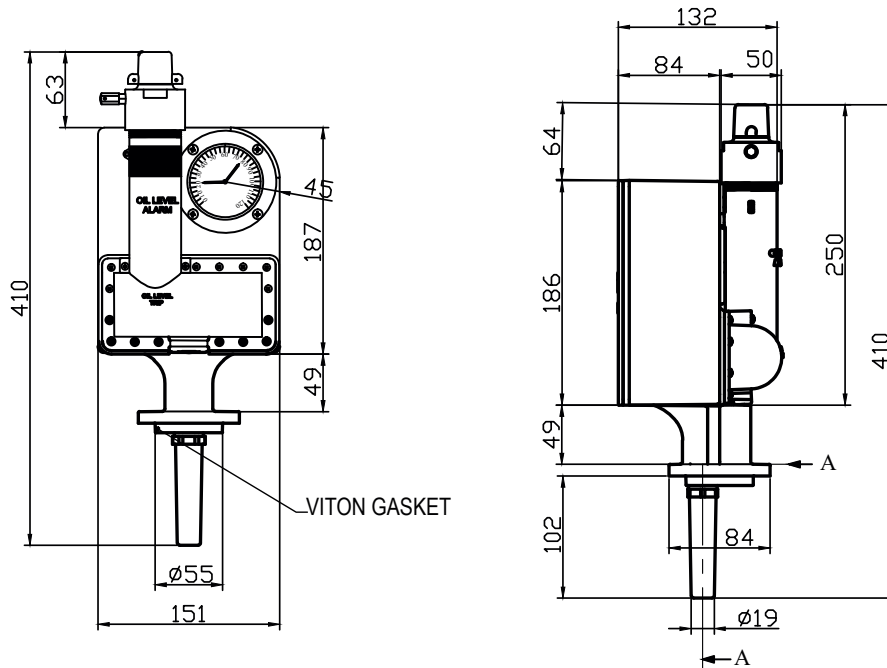
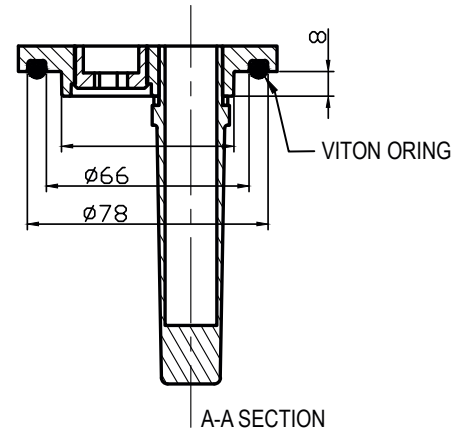
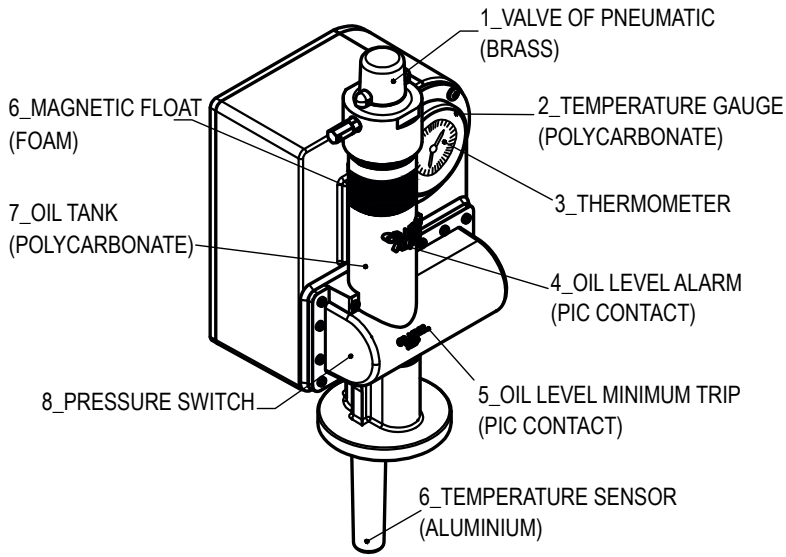
***IP55, ACCUARY: ±5°C

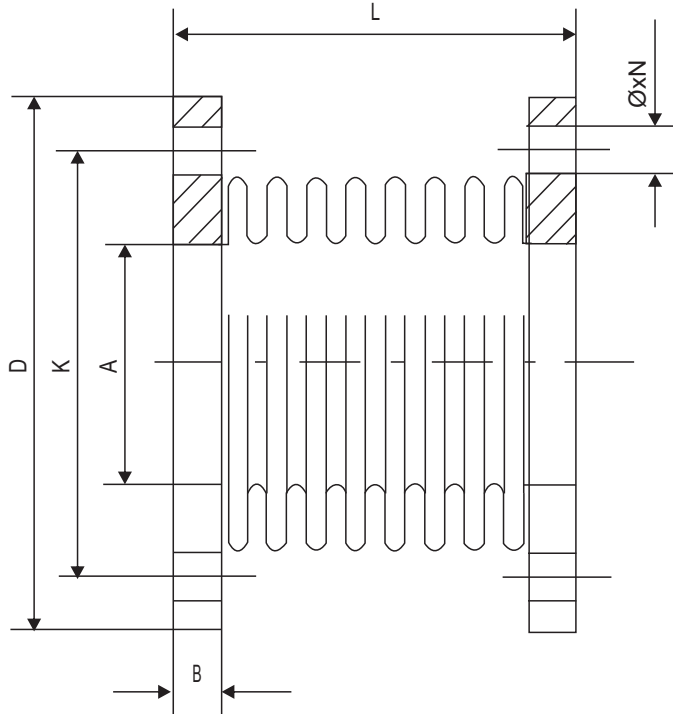
No.	Q'ty	Description	Explanation
1	1	TOP COVER	ALUMINIUM
2	1	BODY	ALUMINIUM
3	1	CONNECTOR	BRASS
4	1	TUBE	STAINLESS TUBE
5	1	COVER FIXING NUT	BRASS
6	1	SCALE	ALUMINIUM
7	1	SETTING NUT	BRASS
8	1	CONNECTOR	PG16, STAINLESS



Recommended Maximum Electrical Ratings (Switch Characteristics)

Switch Type	Voltage (V)	Resistive Load (A)	Motor Load (A)	Approvals ENEC		Approvals UL	
				(A)	(V)	(A)	(V)
XCG	250 (AC)	6	2	6 (2)	250 (AC)	5	250 (AC)
XCG	30 (DC)	6	2	6 (2)	30 (DC)	—	—
XCG	125 (AC)	1,5	0,5	1,5 (0,5)	125 (DC)	—	—



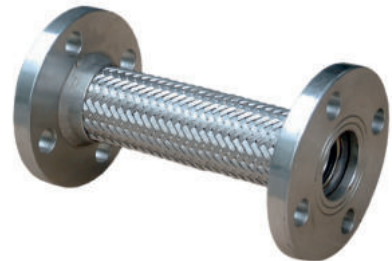


Stainless Steel AISI 304 Bellow
ST 32 Carbon Steel Flanges
Pn16 DN 25 - DN 150
Welding ends Floating Flanges
-196°C + 600°C

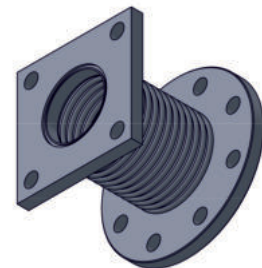


With O-ring Groove or Flat Flange

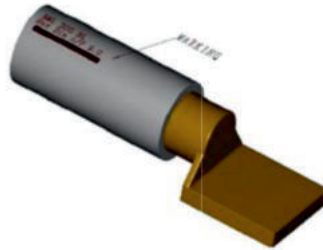
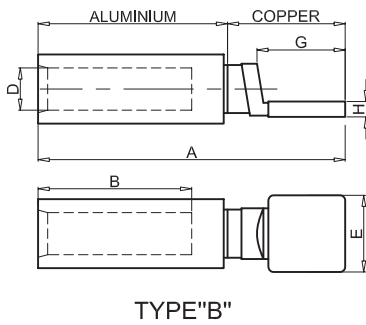
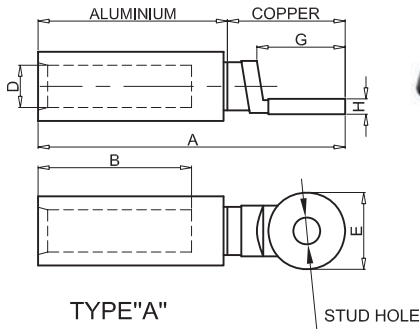
DN A	B	D	K	L	N	Ø	Ağırlık Kg/Unit
25	16	115	85	120	4	14	2,4
50	18	165	125	120	4	14	6,1
65	18	185	145	120	4	18	6,9
80	20	200	160	120	8	18	7,7
100	20	220	180	120	8	18	8,3
125	20	250	210	120	8	18	11,2
150	22	285	240	130	8	22	13,6



Stainless Braided



Square Flange



NOTES:

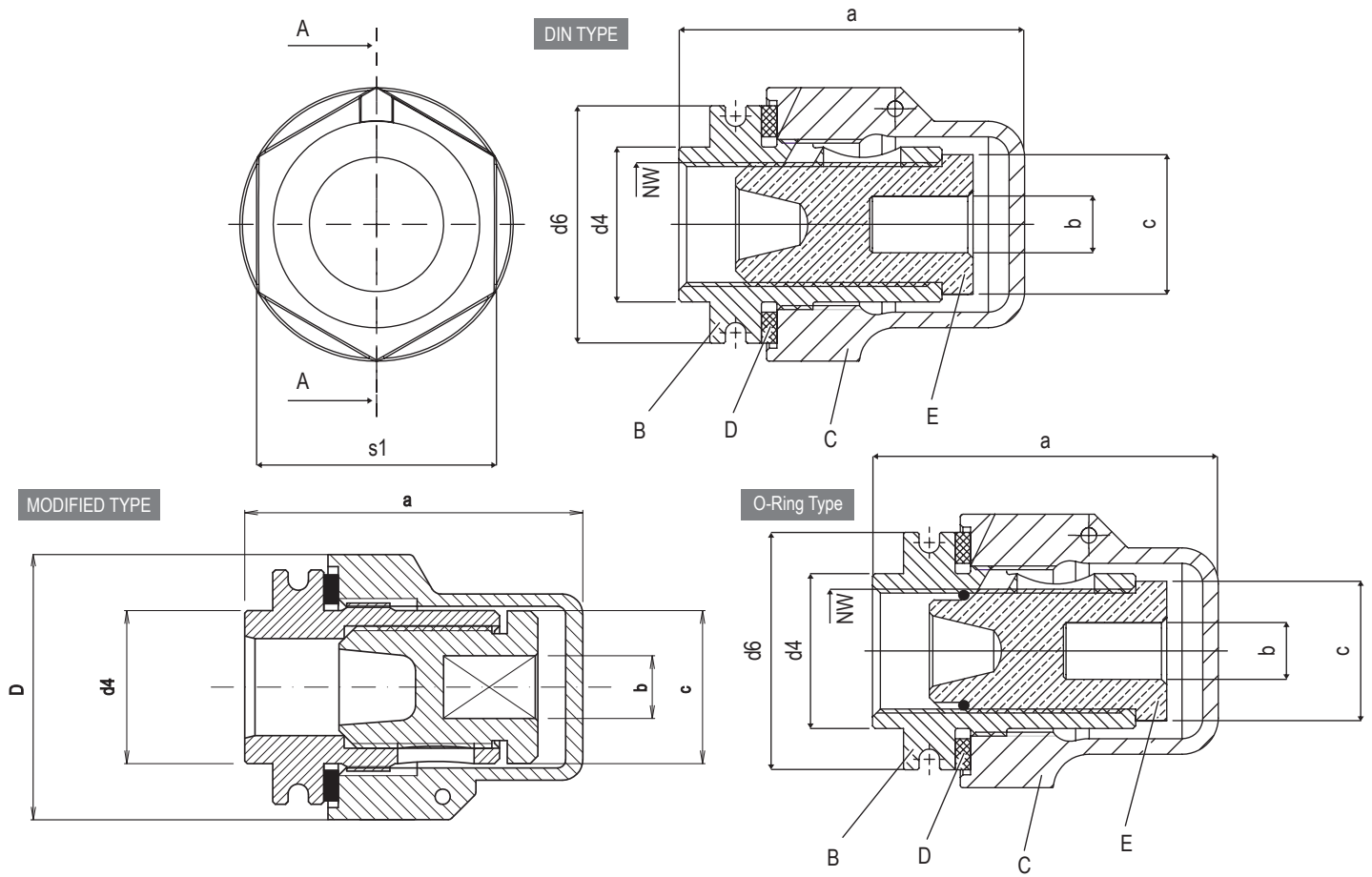
1. DIMENSIONS ARE IN MM
2. Technical Data;
 - Conductive Material
 - Aluminium Sleeve 99.6% pure
 - Tensile Strength 110Mpa
 - Ductile Rating 28%
 - Final Metal State Fully Annealed inc.joint
 - Joining Method Friction Welding (IEC std)

Electrical Properties

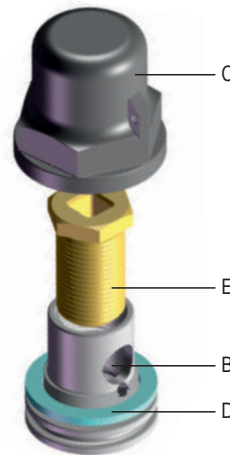
Resistivity 2.6 micro-ohm cm(max):aluminium
 1.1738 micro-ohm cm:copper
 Conductivity 61.8% IACS(min):aluminium
 99.7% IACS: copper
 Operating Temperature
 -40°C to 100°C

CATALOGUE NO	NOMINAL CONDUCT OR	STUD SIZE	STUD HOLE	TYPES	DIMENSIONS (MM)						NO. OF CRIMPS
					A	B	D	E	G	H	
BML16-8	16	8	8.5	"A"	75	32	5.5	20	24	4.5	1
BML16-10	16	10	10.5		75	32	5.5	20	24	4.5	1
BML25-10	25	10	10.5		75	32	7.5	20	24	4.5	1
BML25-12	25	12	12.5		75	32	7.5	20	24	4.5	1
BML35-10	35	10	10.5		75	32	8.5	20	24	4.5	1
BML35-12	35	12	12.5		75	32	8.5	20	24	4.5	1
BML50-10	50	10	10.5		75	32	9.5	24	26	4.5	1
BML50-12	50	12	12.5		75	32	9.5	24	26	4.5	1
BML70-10	70	10	10.5		75	32	11.5	24	26	4.5	1
BML70-12	70	12	12.5		75	32	11.5	24	26	4.5	1
BML95-10	95	10	10.5		115	60	13.5	24	26	6	2
BML95-12	95	12	12.5		115	60	13.5	24	26	6	2
BML120-10	120	10	10.5		115	60	15.5	30	33	6	2
BML120-12	120	12	12.5		115	60	15.5	30	33	6	2
BML150-10	150	10	10.5		120	60	16.5	30	33	7	2
BML150-12	150	12	12.5		120	60	16.5	30	33	7	2
BML185-10	185	10	10.5		120	60	18.5	35	38	7	2
BML185-12	185	12	12.5		120	60	18.5	35	38	7	2
BML240-10	240	10	10.5		135	60	22	35	38	7	2
BML240-12	240	12	12.5		135	60	22	35	38	7	2
BML300-10	300	10	10.5	135	60	23.5	36	38	7	2	
BML300-12	300	12	12.5	135	60	23.5	36	38	7	2	
BML300BL	300			135	60	23.5	36	38	7	2	
BML400BL	400			"B"	160	70	26.5	50	52	10	2
BML500BL	500			160	70	30	50	58	10.5	2	

The oil draining device is to be welded in the transformer case. The device is to be used together with the connection pipe F DIN 42551 for draining the transformer case for regeneration purpose of the oil. The oil drain device remains tight even if the oil temperature rises to 100° C (Temperature Resistance: up to 100° C)

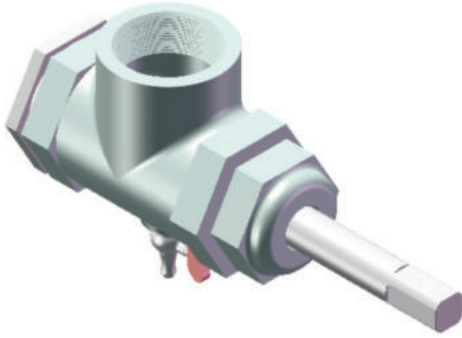


Brass/Aluminium stop plug is possible

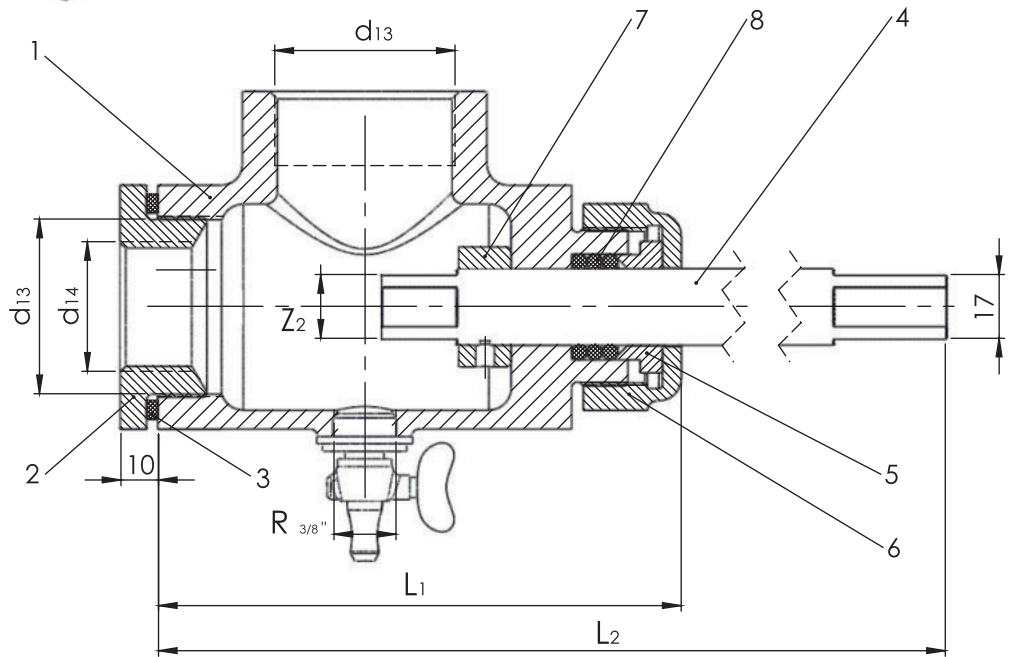


NW	a	d4	b	c	s1 / d6	Weight
NW22	67	30	11	SW27	SW46	0.56 kg.
NW31	93	40	17	SW36	SW65	1.29 kg.
NW40	112	52	17	SW46	SW80	2,25 kg.

Qty	Code	Designation	Material
1	B	Drain Socket	S235JR
1	C	Stop Plug	Gg20
1	D	Gasket	Klingerid
1	E	Inner Bolt	Ms 58

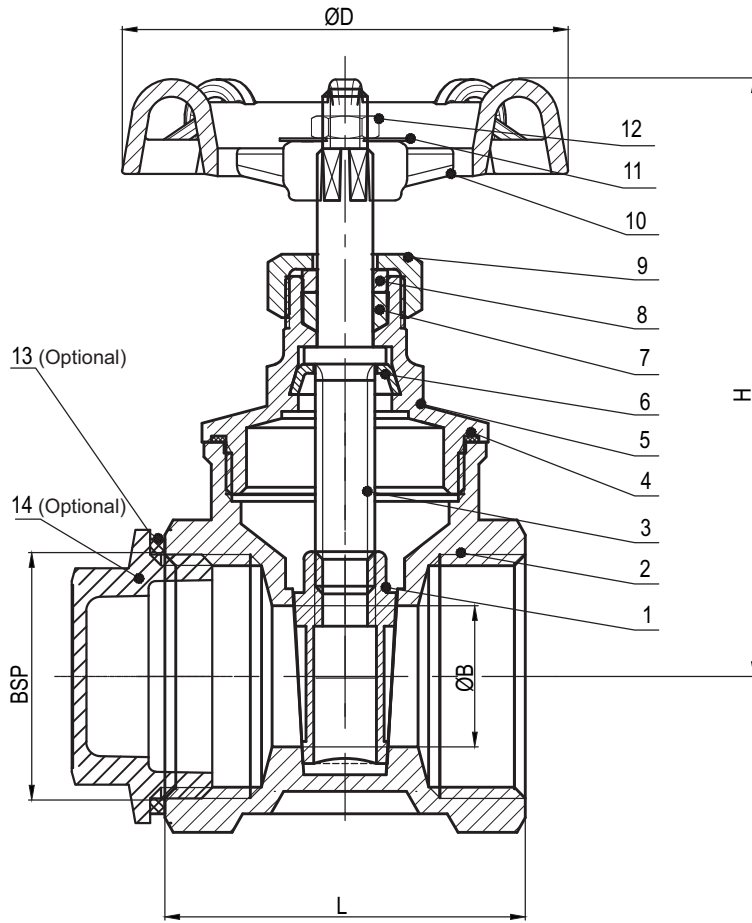


Connection pipe is a tool to connect the oil drain valves A DIN 42551 to an extern oil-system. Connection pipe is manufactured in two sizes and can be reduced of nominal width NW 31 to NW 22 or NW 40 to NW 31



Connection Pipe	NW	d13	d14	Z2	L1	L2	Weight kg.
F22/31 DIN 42 551	22	M 48x1,5	M 33x1,5	11	145	260	2,6
F31/40 DIN 42 551	31	M 60x2	M 48x1,5	17	180	270	2,6
F31 DIN 42 551	31	M 48x1,5	—	17	148	260	2,4
F40 DIN 42 551	40	M 60x2	—	17	180	295	5,2

Part Nr.	Qty	Connection Pipe	F 22/31 DIN 42 551	F 31/40 DIN 42 551	F 31 DIN 42 551	F 40 DIN 42 551	Material
1	1	Housing	G65 DIN 42 551	G80 DIN 42 551	G65 DIN 42 551	G80 DIN 42 551	GG18
2	1	Reduction	H 22/31 DIN 42 551	H31/40 DIN 42 551	—	—	St 34
3	1	Gasket	D31 DIN 42 551	D40 DIN 42 551	—	—	
4	1	Spindle	K1 DIN 42 551	K2 DIN 42 551	K3 DIN 42 551	K3 DIN 42 551	St 34
5	1	Packing Box	L DIN 42 551				St 34
6	1	Srew Cap	N DIN 42 551 GG20				GG20
7	1	Stop Ring	B20 DIN 705 St34				St 34
8	1	Packing	4x4x320 Free of asbestos				



Technical Features

Nominal pressure	PN16
Working Medium	Transformer Oil
Working Temperature	-20 +120

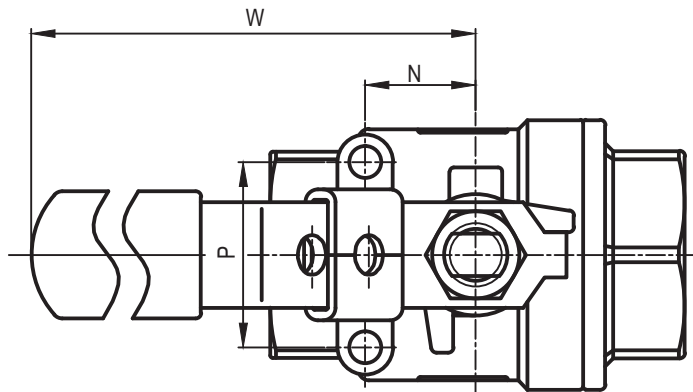
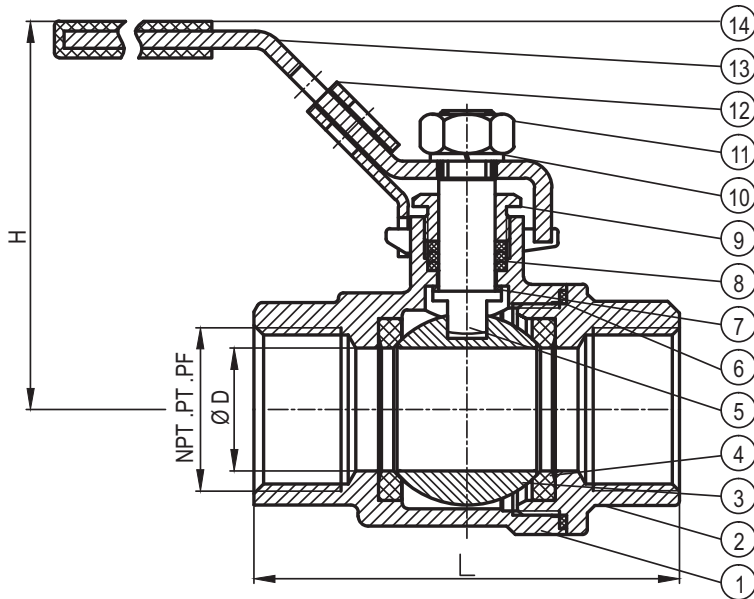
Materials List

NO	DESCRIPTION	MATERIAL
1	Disc	HPb59-2RA
2	Valve body	HPb59-2RA
3	Stem	CW617N
4	Washer ring	PTFE
5	Bonnet	HPb59-2RA
6	Lock nut	HPb59-2RA
7	Packing	PTFE
8	Gland	Brass HPb59-2RA
9	Packing nut	Brass HPb59-2RA
10	Hand Wheel	Steel Zinc plated
11	Nameplate	Aluminum
12	Hex nut	Aluminum
13	Gasket (Optional)	PTFE
14	Plug (Optional)	Brass HPb59-2RA



Dimensions in mm

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
L	42.5	45.5	48.5	56	58	62.5
H	71.5	74	80.5	93.5	108	122
D	55	55	60	72	72	80
B	13	16	19	25	32	39



FEATURES:

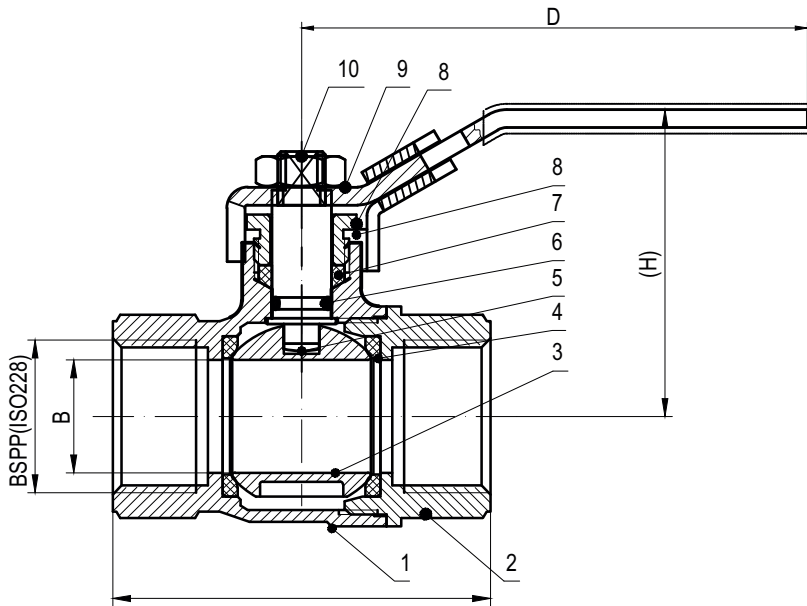
- PIPE THREAD IN ACCORDANCE: NPT, BSPT, DIN259, DIN2999, ISO 228 CLASS A
- FACE TO FACE: DIN-3202-M3
- BLOW-OUT PROOF STEM / FULL PORT
- INVESTMENT CASTING BODY
- 1000PSI(PN63)W.O.G.
- LOCKING DEVICE

Materials List

NO	PART NAME	MATERIAL	
1	BODY	SS304	SS3016
2	CAP	SS304	SS3016
3	BALL	CF8	CF8M
4	SEAT	PTFE	
5	STEM	SUS304	SUS316
6	GASKET	PTFE	
7	THRUST WASHER	PTFE	
8	PACKING	PTFE	
9	GLAND	SUS304	
10	SPRING WASHER	SUS304	
11	STEM NUT	SUS304	
12	LOCKING DEVICE	SUS304	
13	HANDLE	SUS304	
14	PLASTIC COVER	PLASTIC	

DIMENSIONS:

Size		d	L	H	W	N	P
DN	NPS						
8	1/4"	11.6	50	56	102	12.7	28.5
10	3/8"	12.7	60	56	102	12.7	28.5
15	1/2"	15	75	65	123	12.7	28.5
20	3/4"	20	80	68	123	21	35
25	1"	25	90	79	153	21	35
32	1 1/4"	32	110	84	153	23.5	38
40	1 1/2"	40	120	94	183	23.5	38
50	2"	50	140	100	183	23.5	38
65	2 1/2"	65	185	135	246	35	54
80	3"	80	205	145	246	35	54



TECHNICAL FEATURES

Nominal pressure	600WOG
Shell Test Pressure	4.2MPa
Air Test Pressure	1.31MPa
Working Medium	Transformer Oil
Working Temperature	-20 / +120

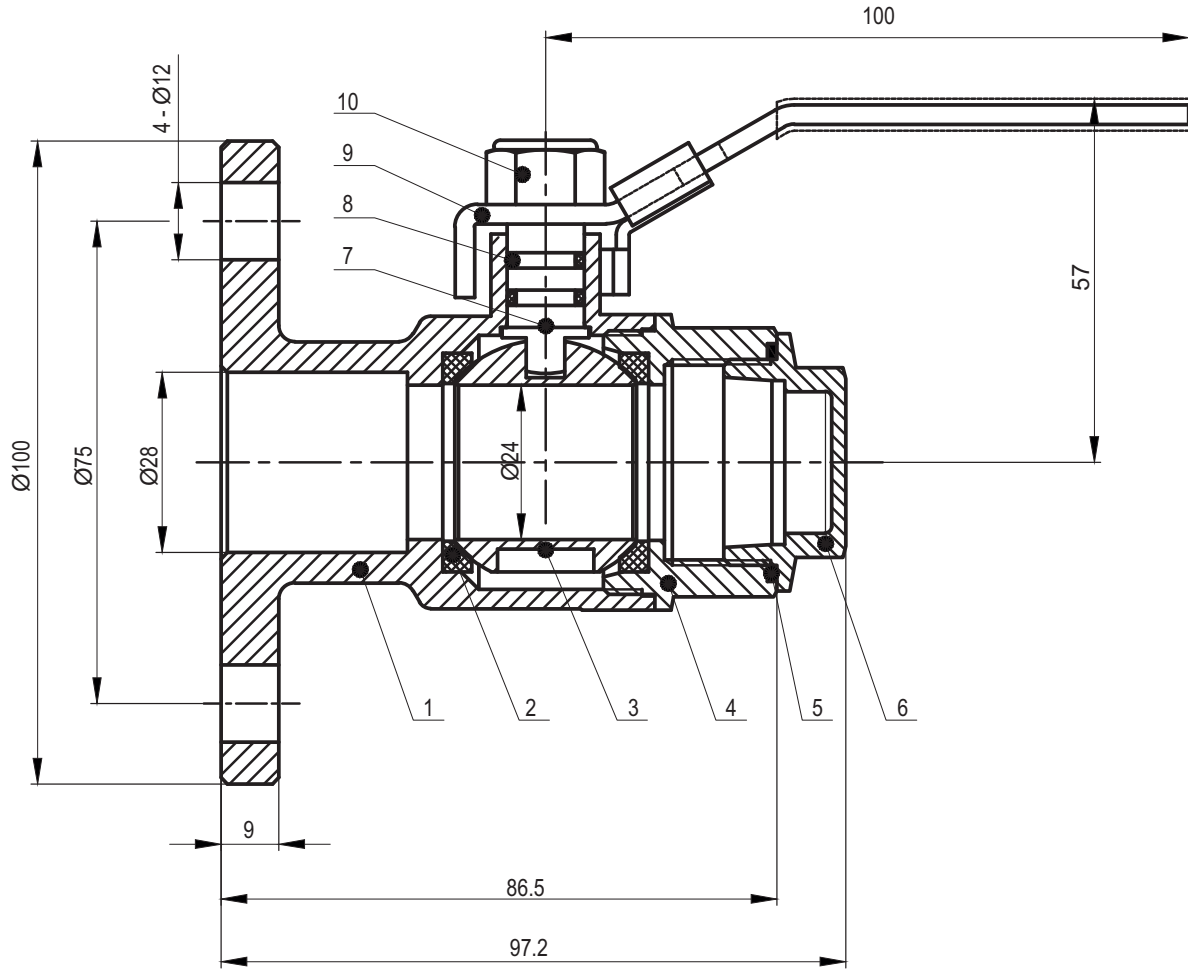
Dimensions in mm

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
L	56	63	75	85	92.5	110
H	46	51	56	57	73	81
D	95	115	115	145	145	165
B	14	19	24	31	31	49

MATERIALS LIST

NO	DESCRIPTION	MATERIAL
1	VALVE BODY	CW617N
2	BONNET	CW617N
3	BALL	BRASS CHROMED PLATING
4	SEAT	PTFE
5	STEM	CW617N
6	O-RING	NBR
7	PACKING	PTFE
8	PACKING NUT	BRASS
9	LOCKING HANDLE	S.S.304
10	HEX NUT	S.S. 304

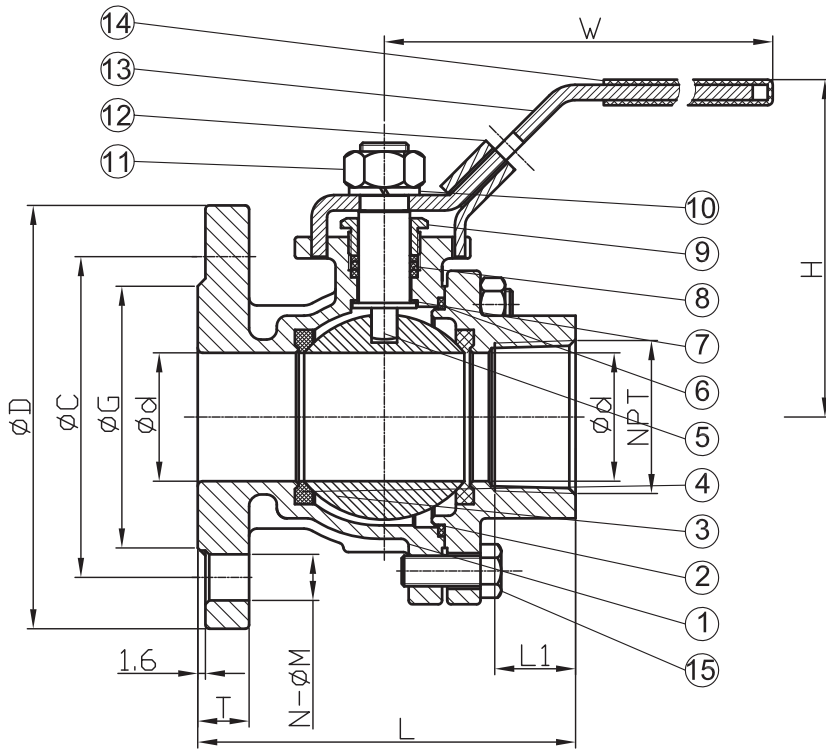




One Piece Body

Materials List

NO	DESCRIPTION	QTY.	MATERIAL
1	Valve body	1	Brass CW617N
2	Valve seat	2	PTFE
3	Ball	1	Brass HPb58-2
4	Bonnet	1	CW617N
5	Gasket	1	PTFE
6	Cap	1	Brass CW617N
7	Stem	1	Brass CW617N
8	O-ring	2	EPDM
9	Handle with locking device	1	SS304
10	Hex nut	1	SS304

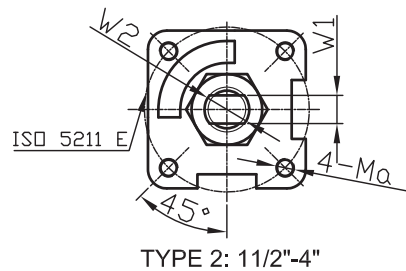
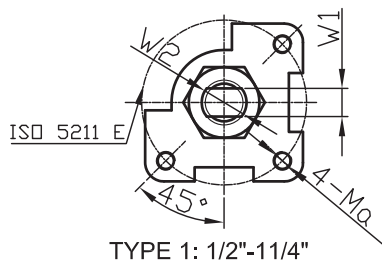


FEATURES:

- End Flange Dimension: Asme B16.5
- Design: Asme B16.34
- Test: API 598
- With ISO 5211 Mounting Pad
- Investment Casting Body
- Blow-Out Proof Stem / Full Port
- Lever Operated / Locking Device

MATERIALS LIST

NO	PART NAME	MATERIAL
1	BODY	CF8M
2	CAP	CF8M
3	BALL	CF8M
4	SEAT	PTFE
5	STEM	SUS316
6	GASKET	PTFE
7	THRUST WASHER	PTFE
8	PACKING	PTFE
9	GLAND	SUS304
10	SPRING WASHER	SUS304
11	STEM NUT	SUS304
12	LOCKING DEVICE	SUS304
13	HANDLE	SUS304
14	PLASTIC COVER	PLASTIC
15	BOLT	SUS304

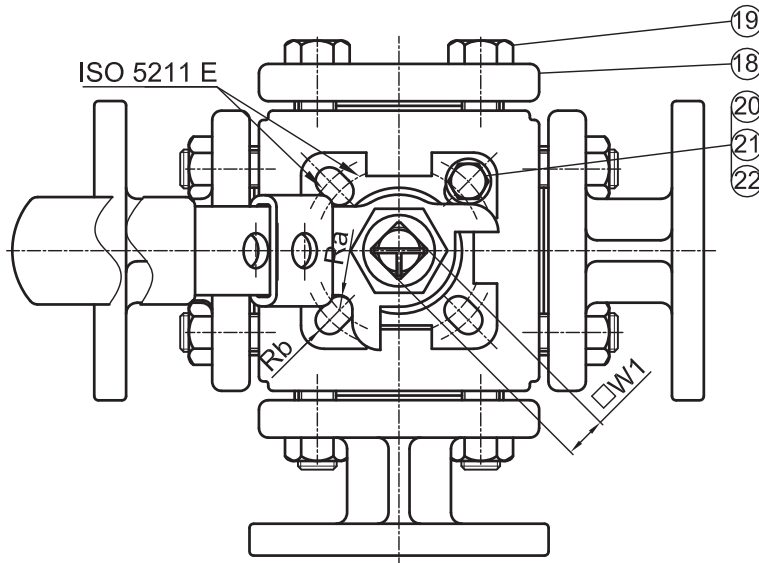
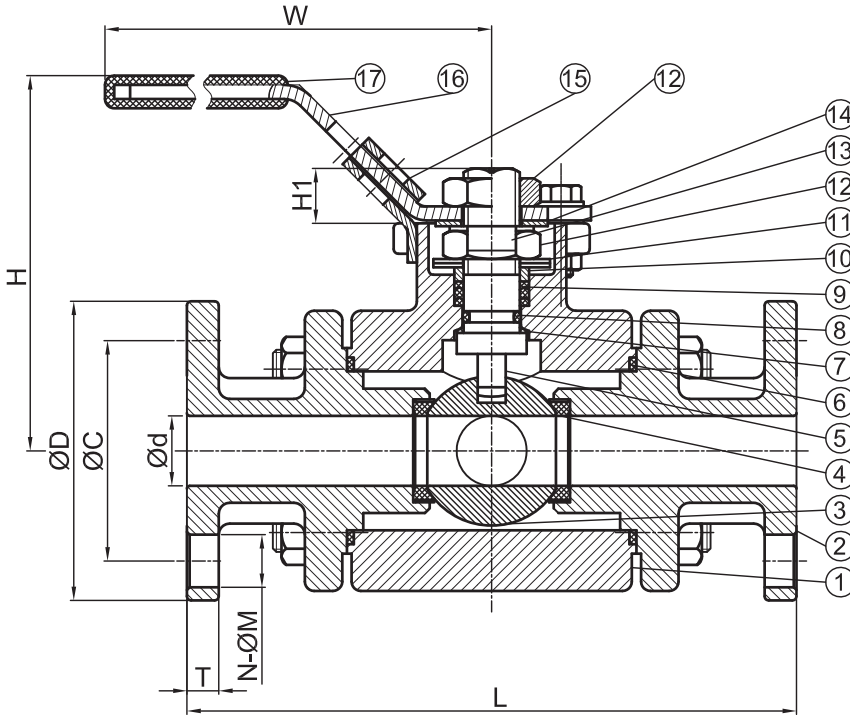


TEST PRESSURE:

SHELL (BY WATER)	450PSI
	32kg/cm ²
SEAT	BY WATER
	315PSI
	22kg/cm ²
	BY AIR
85PSI	
6kg/cm ²	

DIMENSIONS:

SIZE	d	D	C	G	T	N-ØM	L	L1	H	W	W1	W2	ISO 5211	E	Ma	NPT
1"	25	108	79.5	51	11.1	4-Ø16	95	17.5	92	188	9.5	14.5	F05	50	M6	1"NPT
1 1/2"	40	127	98.5	73	14.3	4-Ø16	123	18.5	126	245	12	19.0	F07	70	M8	1 1/2"NPT
2"	50	152	120.5	92	15.9	4-Ø19	137	19.5	132	245	12	19.0	F07	70	M8	2"NPT



FEATURES:

- TEST: EN 12266-1:2003
- INVESTMENT CASTING BODY
- WITH ISO 5211 MOUNTING PAD
- LOCKING DEVICE
- THERE ARE FOUR SEATS
- L-PORT OR T-PORT AVAILABLE / 360°PAD

MATERIALS LIST

NO	PART NAME	MATERIAL
1	BODY	SS304 SS316
2	CAP	SS304 SS316
3	BALL	SS304 SS316
4	SEAT	PTFE
5	STEM	SS316
6	GASKET	PTFE
7	THRUST WASHER	PTFE
8	O-RING	VITON
9	PACKING	PTFE
10	GLAND	SS304
11	SPRING WASHER	SS304
12	STEM NUT	SS304
13	STOP WASHER	SS304
14	HANDLE HEAD	SS304
15	LOCKING DEVICE	SS304
16	HANDLE	SS304
17	PLASTIC COVER	PLASTIC
18	CAP-A	SS316
19	BOLT	SS304
20	STOP PIN	SS304
21	BOLT	SS304
22	NUT	SS304

FLOW PATTERN:

PORT TYPE	1	2	3	4
T	1 ⊕ ₃ 2	1 ⊕ ₃ 2	1 ⊕ ₃ 2	1 ⊕ ₃ 2

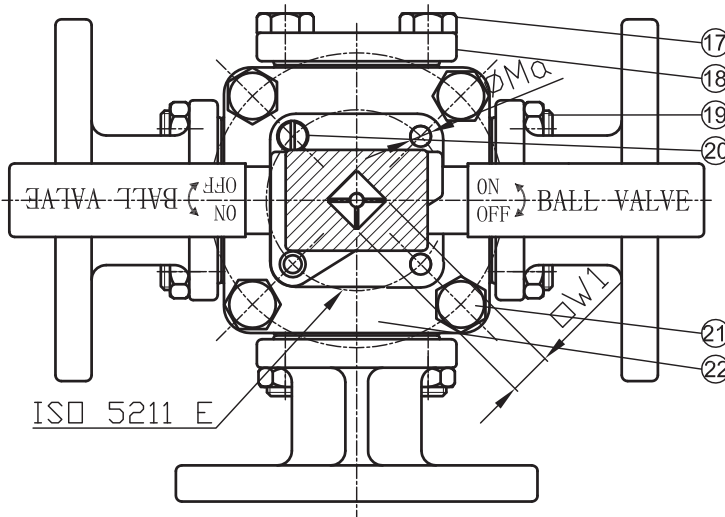
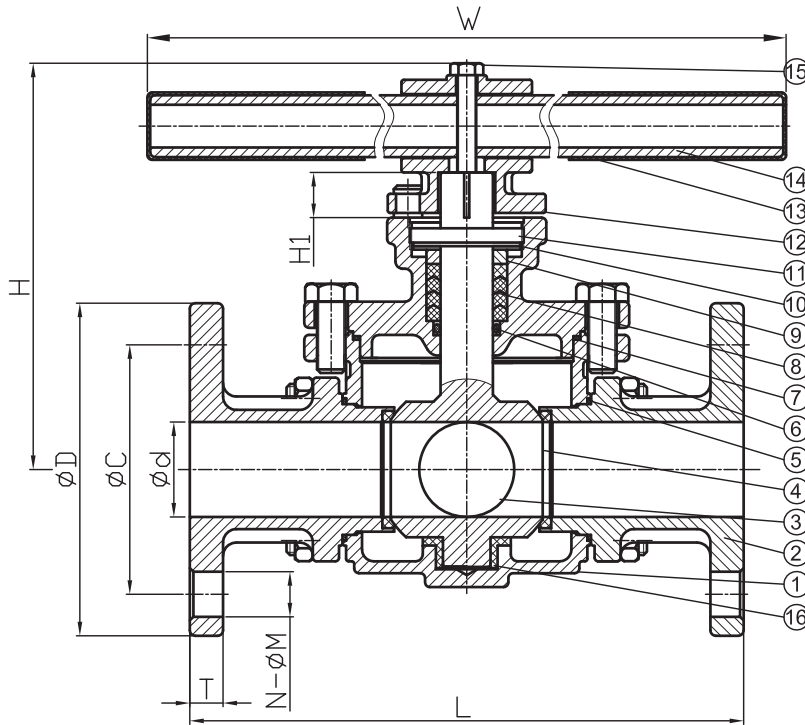
DIMENSIONS:

SIZE	d	D	C	T	N	M	L	H	W	ISO	E	H1	W1	Ra	Rb
DN NPS										5211					
25 1"	25	108	85	12.1	4	4	165	96	153	F04-F05	42-50	11	11	R3	R3.5

TEST PRESSURE:

SHELL(BY WATER)	EN 12266-1
	450PSI 32kg/cm ²
SEAT	BY WATER 315PSI 22kg/cm ²
	BY AIR 85PSI 6kg/cm ²





FEATURES:

- END FLANGE DIMENSION: DIN2633
- TEST:EN 12266-1:2003
- INVESTMENT CASTING BODY
- FIXED BALL / FULL PORT
- WITH ISO 5211 MOUNTING PAD
- THERE ARE FOUR SEATS
- L-PORT OR T-PORT AVAILABLE / 360°PAD

NO	PART NAME	MATERIAL
1	BODY	SS304 SS316
2	CAP	SS304 SS316
3	BALL	SS304 SS316
4	SEAT	R-PTFE
5	GASKET	R-PTFE
6	O-RING	VITON
7	GASKET	R-PTFE
8	PACKING	R-PTFE
9	GLAND	SUS304
10	SPRING WASHER	SUS301
11	CAP-C	1.4308 (SS304)
12	HANDLE HEAD	1.4308 (SS304)
13	PLASTIC COVER	PLASTIC
14	HANDLE POLE	GALVANIZED PIPE
15	HANDLE BOLT	SUS304
16	SLEEVE	R-PTFE
17	CAP-B BOLT	SUS304
18	CAP-B	1.4308
19	BOLD	SUS304
20	STOP PIN	SUS304
21	CAP-A BOLT	SUS304
22	CAP-A	1.4308

FLOW PATTERN:				
PORT TYPE	1	2	3	4
L	1 ⊕ ₃ 2	1 ⊕ ₃ 2	1 ⊕ ₃ 2	1 ⊕ ₃ 2
T	1 ⊕ ₃ 2	1 ⊕ ₃ 2	1 ⊕ ₃ 2	1 ⊕ ₃ 2

TEST PRESSURE:	
SHELL(BY WATER)	345PSI
	24kg/cm ²
SEAT	250PSI
	17.5kg/cm ²
	85PSI
	6kg/cm ²

DIMENSIONS:

Size	d	D	C	T	N	M	L	H	W	ISO 5211	E	H1	W1	Ma
DN NPS														
80 3"	76	200	160	20	8	18	305	216	504	F10	102	24	22	□12

**Flanged Gate Valves,
PN16 nominal pressure,
DIN EN 12288**

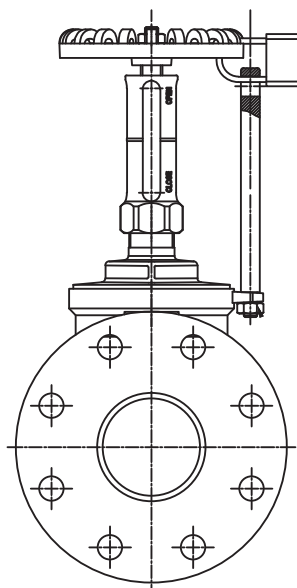
Body and all parts made of brass Ms 58 or RG 5 Bronze (red brass)
with maintenance-free gland packing (PTFE)
and non rising stem,
flanged connection acc. to DIN EN 1092-1



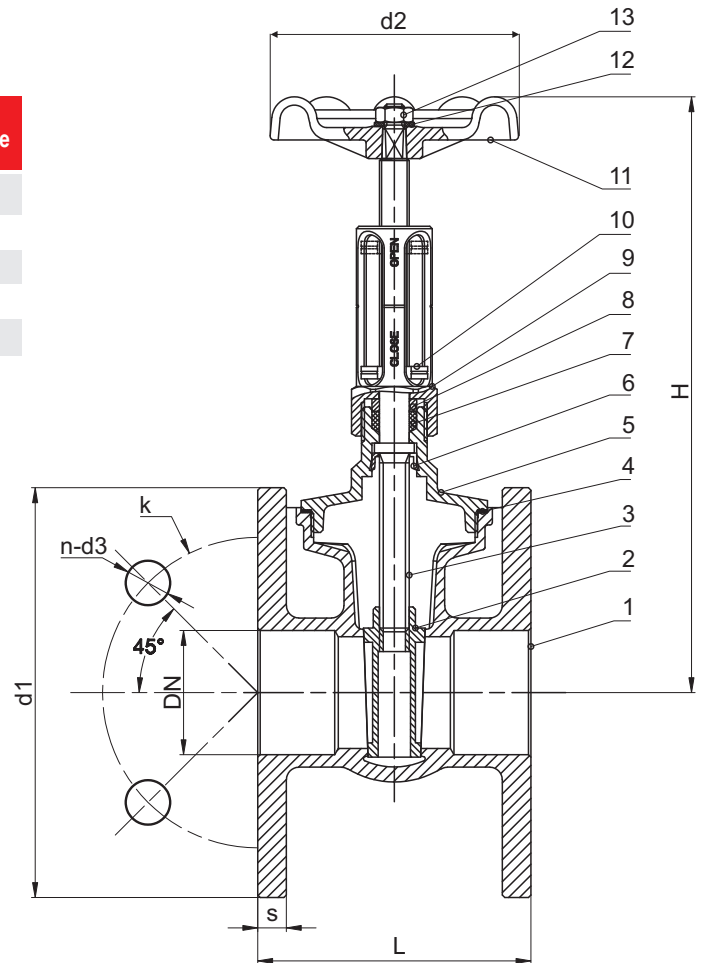
Specifications

Material	: Brass Ms 58 (CuZn40Pb2) or bronze RG 5 (CuSn5ZnPb)
Handwheel	: Brass (Red painted)
Wedge,cap,stem	: Brass Ms 58 (CuZn40Pb2) or bronze RG 5 (CuSn5ZnPb)
Other assembly components	: A2-70 Stainless Steel
Gaskets	: Resistant to Transformer Oil
Temperature	: -25°C, +120 °C
Flange dimensions	: EN 1092-1
Stem	: Moving inner

DN	L	d1	H	d2	s	Holes			W(kg.)	Pressure
						k	n	d3		
25	80	115	80	60	10	85		14	2,3	
40	100	150	100	80	10,5	110	4	18	4,2	
50	110	165	110	100	11,5	125		18	4,8	PN 16
65	130	185	130	120	14	145		18	8.9	
80	150	200	150	140	14	160	8	18	11.4	



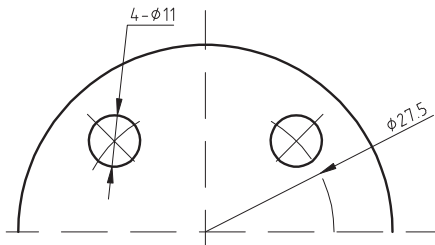
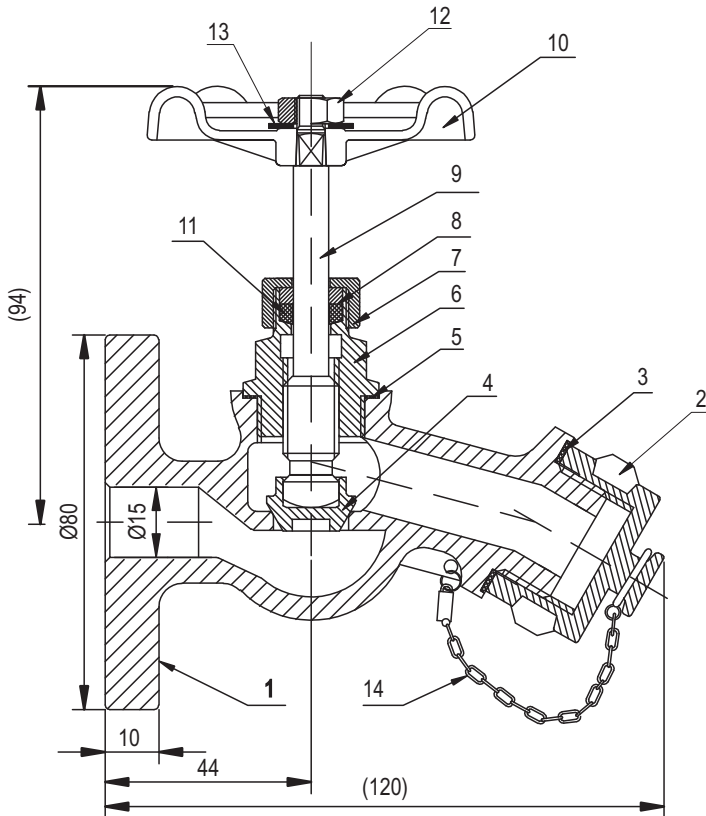
Padlock (Optional)
Locking Pin (Optional)



ARES drain valve for taking samples and drainage from transformer oil.

Brass Ms 58 (CuZn40Pb2)
Bronze RG 5 (CuSn5ZnPb)

Body : Ms 58 or Bronze
Valve stem seal : PTFE gland packing
Seat packing : Metal
Flange connection : Acc. to DIN2501

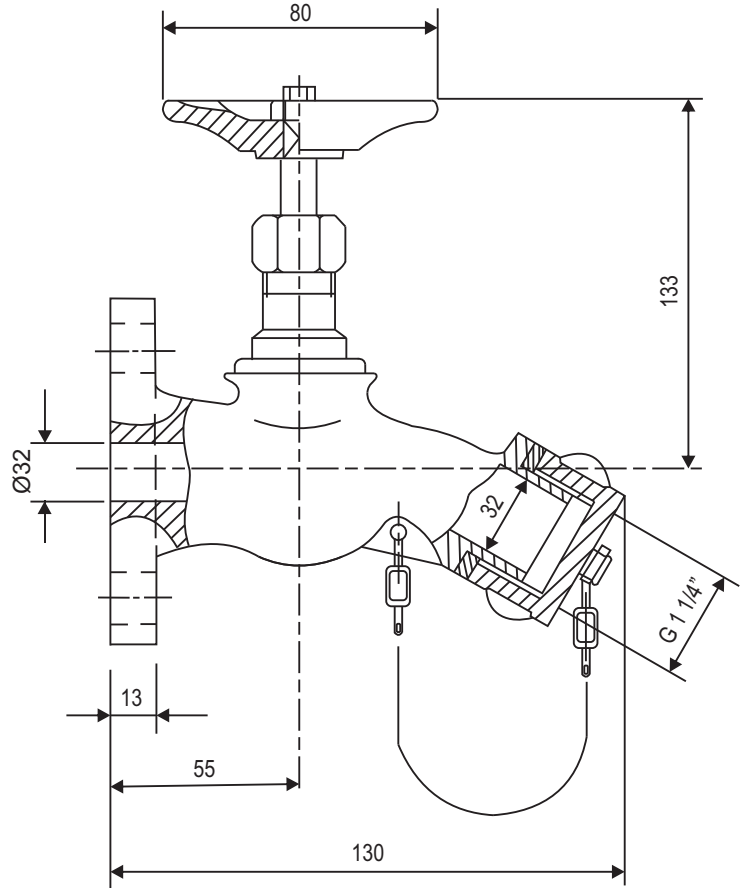
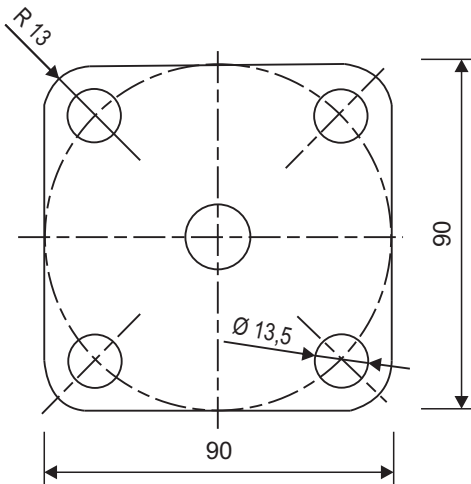


NO	PART NAME	MATERIAL
1	Body	Ms 58 (CuZn40Pb2) or RG 5
2	Closing cap	Ms 58 (CuZn40Pb2) or RG 5
3	Gasket	Teflon
4	Seat	Ms 58 (CuZn40Pb2) or RG 5
5	Gasket	PTFE
6	Upper Cap	Ms 58 (CuZn40Pb2) or RG 5
7	Nut	Ms 58 (CuZn40Pb2) or RG 5
8	Gland	Ms 58
9	Stem	Ms 58
10	Hand wheel	Bakalite or Aluminium casting
11	Packing	PTFE
12	Nut	SS 316
13	Washer	SS 316
14	Chain	SS 316

ARES drain valve for taking samples and drainage from transformer oil.

Brass Ms 58 (CuZn40Pb2)
Bronze RG 5 (CuSn5ZnPb)

Body : Ms 58 or Bronze
Valve stem seal : PTFE gland packing
Seat packing : Metal
Flange connection : Acc. to DIN2501



NO	PART NAME	MATERIAL
1	Body	Ms 58 (CuZn40Pb2) or RG 5
2	Closing cap	Ms 58 (CuZn40Pb2) or RG 5
3	Gasket	Teflon
4	Seat	Ms 58 (CuZn40Pb2) or RG 5
5	Gasket	PTFE
6	Upper Cap	Ms 58 (CuZn40Pb2) or RG 5
7	Nut	Ms 58 (CuZn40Pb2) or RG 5
8	Gland	Ms 58
9	Stem	Ms 58
10	Hand wheel	Bakalite or Aluminium casting
11	Packing	PTFE
12	Nut	SS 316
13	Washer	SS 316
14	Chain	SS 316



TC311 SUSU316 A351 Gr-CF8M DIN1.4408

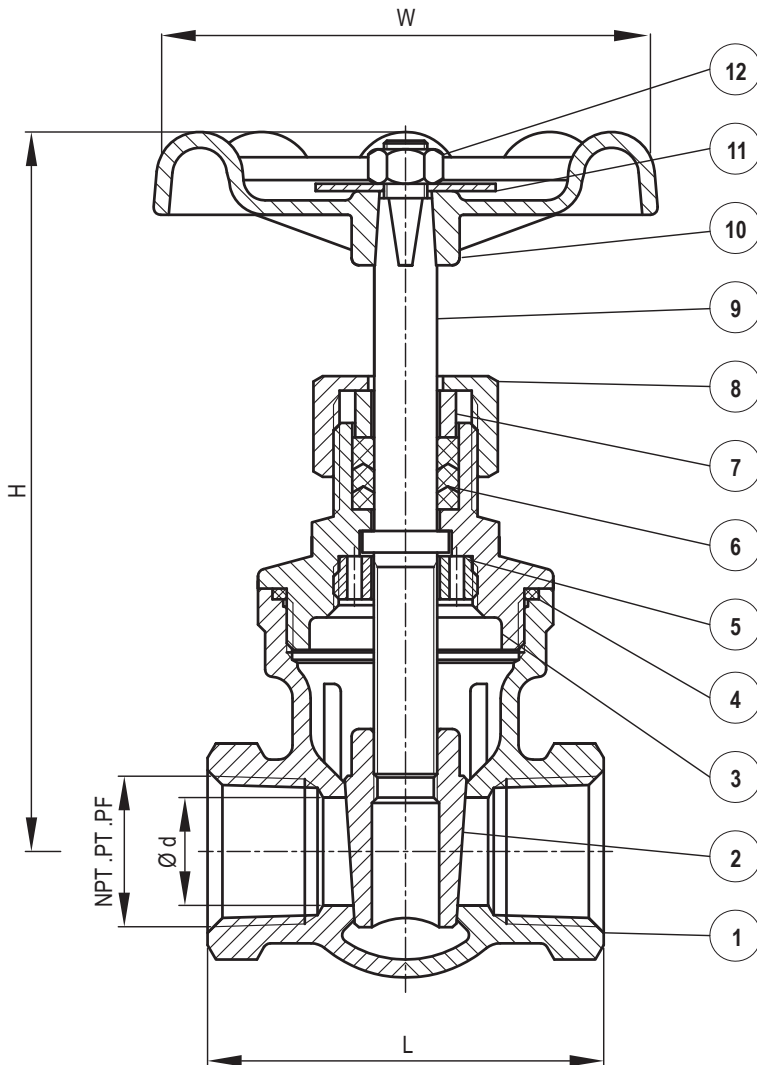
FEATURES:

- PIPE THREAD IN ACCORDANCE: NPT, BSPT, DIN259, DIN2999, ISO 228 CLASS A
- INVESTMENT CASTING BODY
- NON-RISING STEM
- 200 W.O.G.
- MATERIAL:

SUS316/ ASTM A351 Gr-CF8M/DIN1.4408

MATERIALS LIST

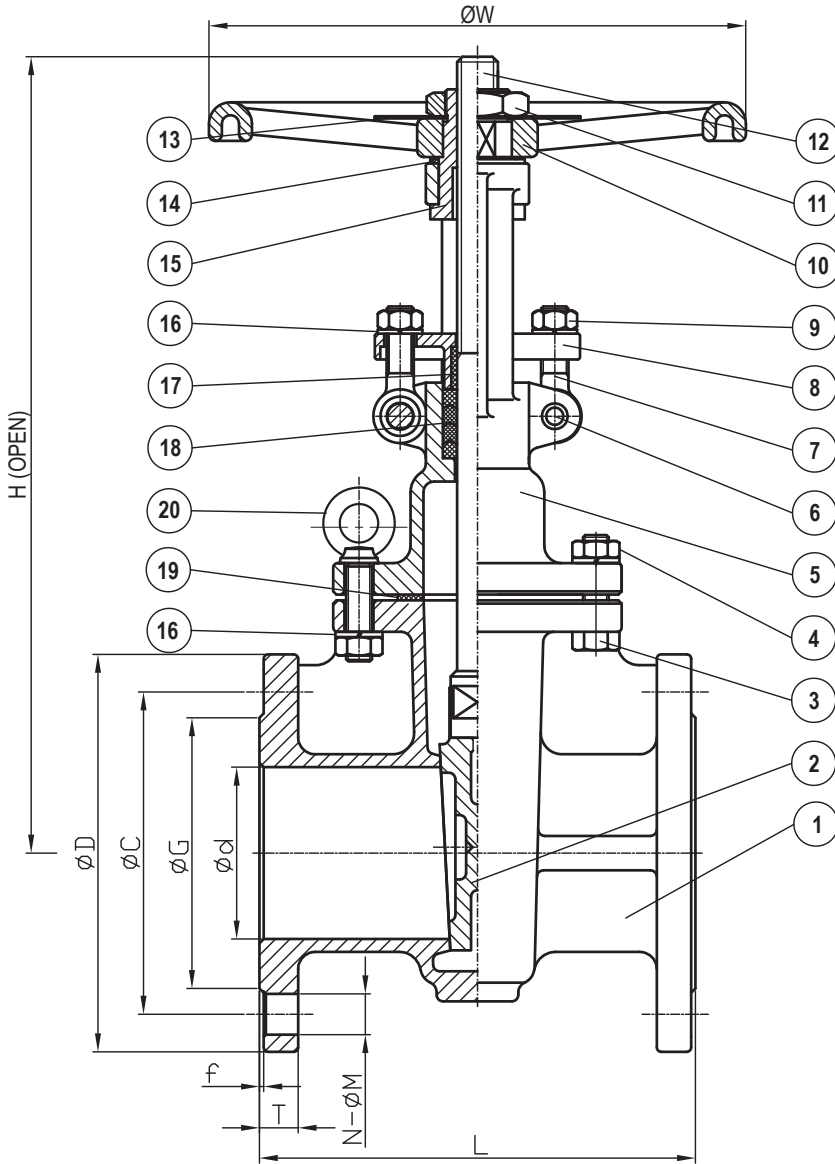
NO	PART NAME	MATERIAL	
1	BODY	SS304	SS316
2	DISC	SS304	SS316
3	BONNET	SS304	SS316
4	GASKET	PTFE	
5	WHORL GASKET	SUS304	
6	PACKING	PTFE	
7	GLAND	SUS304	
8	CAP NUT	CF8M	
9	STEM	SUS316	
10	HANDLE	ALUMINUM	
11	NAMEPLATE	ALUMINUM	
12	NUT	SUS304	



DIMENSIONS:

Size		d	L	H	W	WEIGHT KG
DN	NPS					
15	1/2"	15	55	101	70	0.42
20	3/4"	20	60	108	70	0.52
25	1"	25	65	115	80	0.70
32	1 1/4"	32	75	132	80	1.01
40	1 1/2"	38	85	149	90	1.54
50	2"	50	95	175	100	2.06
65	2 1/2"	65	116	213	140	5.56
80	3"	80	130	241	140	8.63





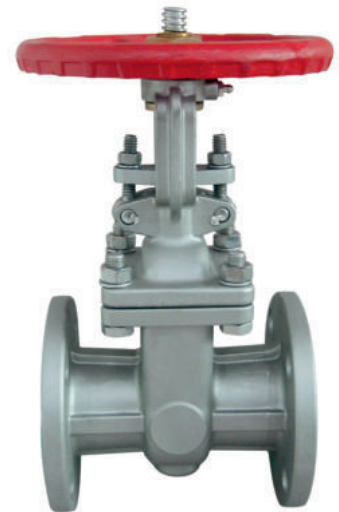
FEATURES:

- FACE TO FACE DIMENSION: DIN3202-F4
- END FLANGE DIMENSIONS: DIN2633
- DESING: ASME B16.34
- TEST: EN 12266-1
- INVESTMENT CASTING BODY

MATERIALS LIST

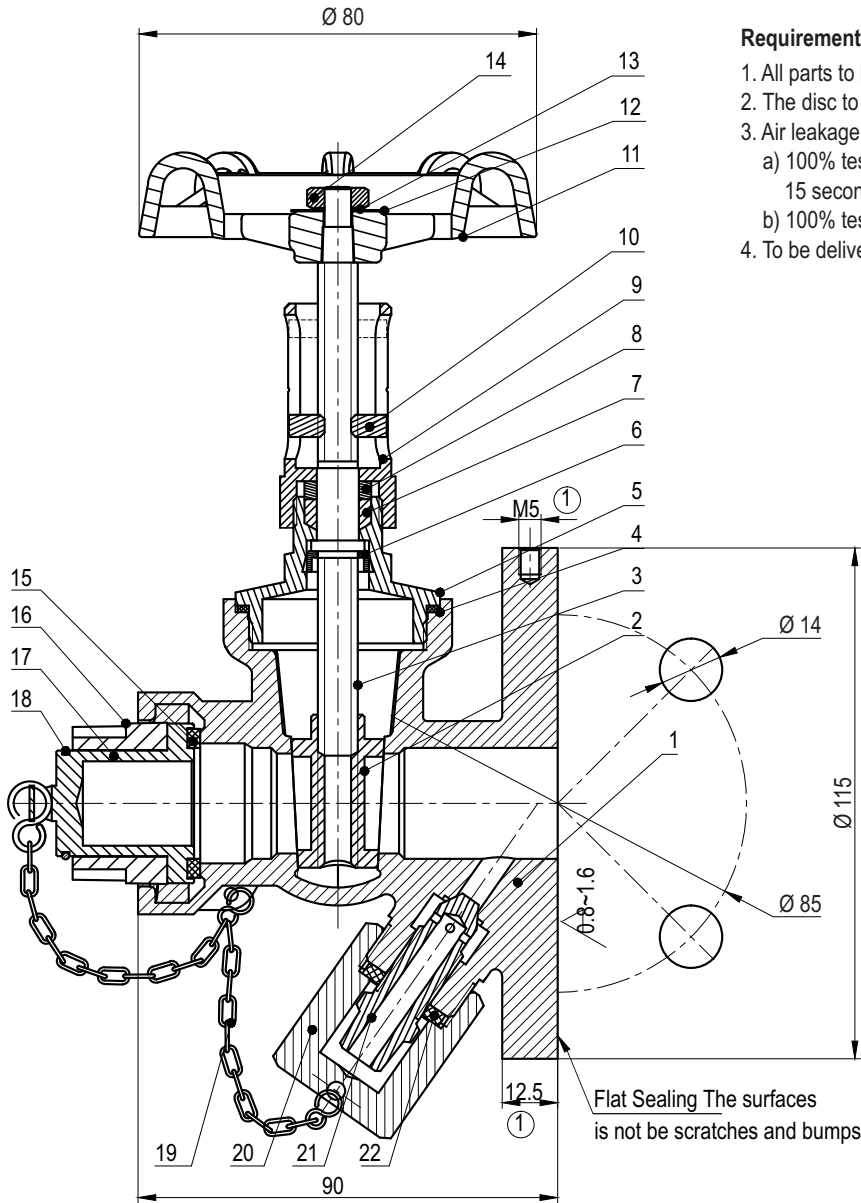
NO	PART NAME	MATERIAL	
1	BODY	1.4308	1.4408
2	DISC	1.4308	1.4408
3	BOLT	SUS304	
4	NUT	SUS304	
5	CAP	1.4308	1.4408
6	HINGE PIN	SUS304	
7	EYE BOLT	SUS304	
8	GLAND	1.4308	
9	EYE NUT	SUS304	
10	HAND WHEEL	FCD	
11	NUT	BRONZE	
12	STEM	SUS304	SUS316
13	NAME PLATE	SUS304	
14	GASKET	BRONZE	
15	YOKE SLEEVE	BRONZE	
16	SPRING WASHERS	SUS304	
17	STEM BUSHING	PTFE	
18	GLAND PACKING	PTFE	
19	GASKET	*PTFE / 304+GRAPHITE	
20	LIFTING RING	SUS304	

* 5"UP GASKET: SS304+GRAPHITE



DIMENSIONS:

Size	d	L	H	W	D	C	G	f	T	N-ØM
2"	50	50	150	331	200	165	125	102	3	18 4-Ø18
2 1/2"	65	65	170	393	200	185	145	122	3	18 4-Ø18
3"	80	80	180	470	250	200	160	138	3	20 8-Ø18
4"	100	100	190	545	250	220	180	158	3	20 8-Ø18
5"	125	125	200	640	300	250	210	188	3	22 8-Ø18
6"	150	150	210	740	300	285	240	212	3	22 8-Ø22
8"	200	200	230	910	350	340	295	268	3	24 8-Ø22



Requirements

1. All parts to be clean and free of oil and other impurities before assembling.
2. The disc to move up and down smoothly with opening and closing the valves
3. Air leakage test according to below
 - a) 100% testing of the external leakage, pressure (air) to be 6bar for min. 15 seconds.
 - b) 100% testing of internal leakage: Pressure (air) to be 6 bar for min. seconds.
4. To be delivered in the closed position.

Materials List

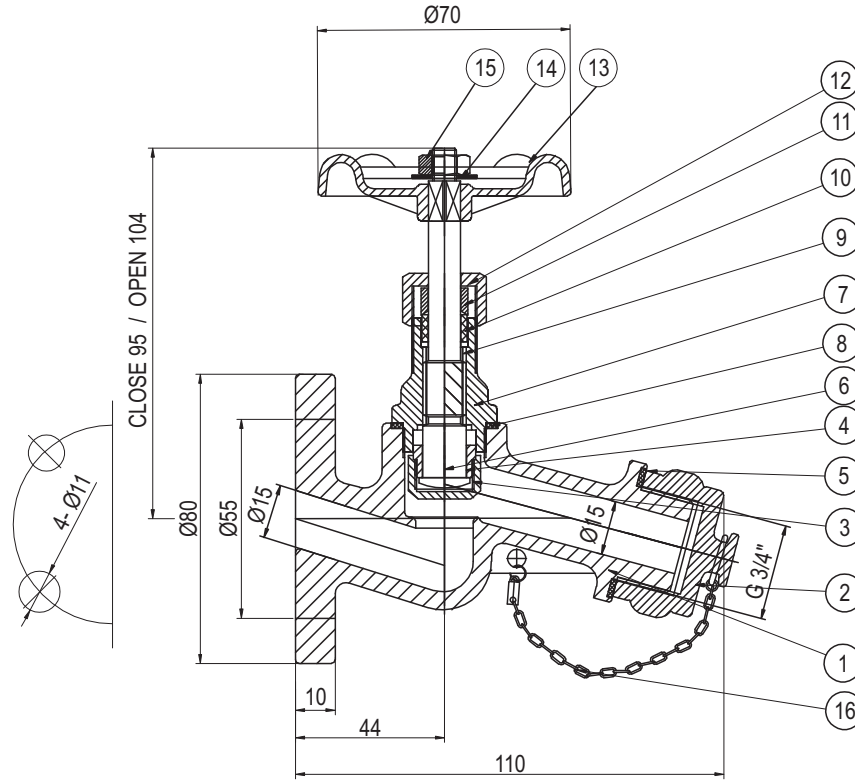
NO	DESCRIPTION	QTY.	MATERIAL
1	Valve body	1	Bronze C83600
2	Disc	1	Bronze C83600
3	Stem	1	Brass CW617N
4	Washer ring	1	PTFE
5	Bonnet	1	Bronze C83600
6	Tightening Ring	1	Brass HPb58-2
7	Sealing Ring	1	PTFE
8	Clamping Nut	1	Brass HPb58-2
9	Guiding holder	1	Bronze C83600
10	Across Slider	1	Bronze C83600
11	Handlehell	1	BRASS
12	Nameplate	1	Aluminum
13	Gasket	1	SUS 304
14	Hex Nut	1	SUS 304 M6
15	Seal ring	1	NBR
16	Sealing holder	1	Brass CW617N
17	Clamping fitting	1	Bronze C83600
18	Chain	1	Brass
19	Hex cap	1	Brass CW617N
20	Drain disc	1	Brass CW617N
21	Sealing washer	1	PTFE



ARES drain valve for taking samples and drainage from transformer oil.

Stainless Steel 316/1.4408
Stainless Steel 304/1.4308

Body : Stainless steel
Valve stem seal : PTFE gland packing
Seat packing : Metal
Flange connection : Acc. to DIN2501



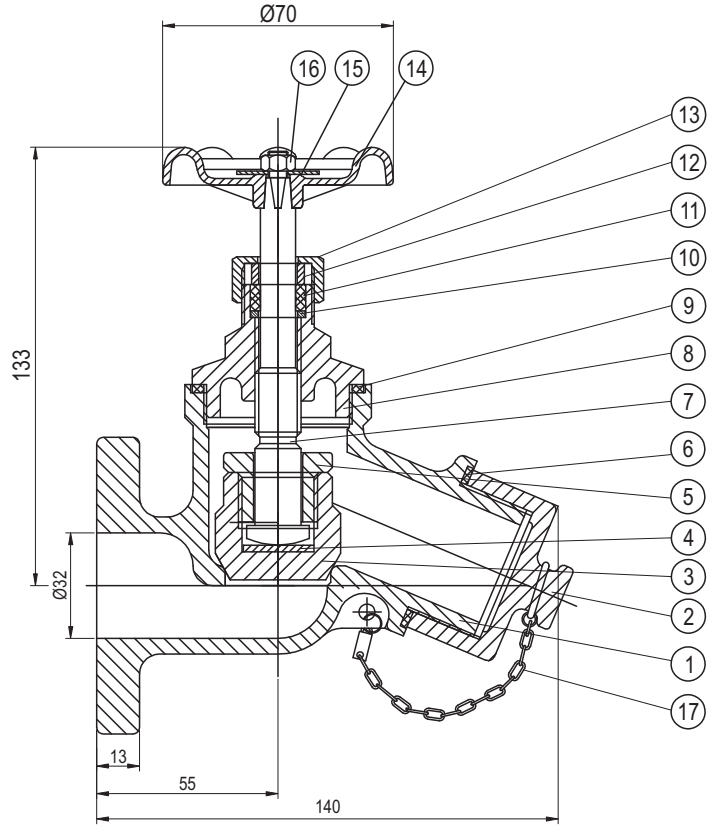
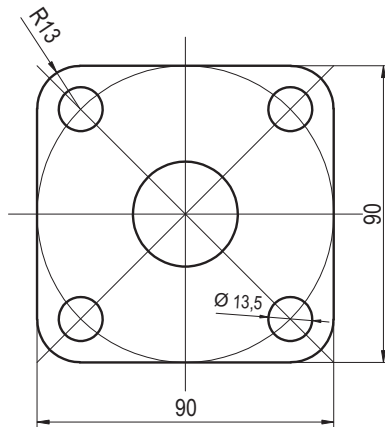
NO	PART NAME	MATERIAL
1	Body	1.4308 - 1.4408
2	Closing cap	1.4308 - 1.4408
3	Disc	SS 304
4	Disc cover	SS 304
5	Gasket	PTFE
6	Stem	SS 304
7	Upper Cap	1.4308 - 1.4408
8	Gasket	PTFE
9	Washer	SS 304
10	Packing	PTFE
11	Gland	SS 304
12	Nut	1.4308 - 1.4408
13	Handle	AL or Bakelite
14	Nut	SS 304
15	Washer	SS 304
16	Chain	SS 304



ARES drain valve for taking samples and drainage from transformer oil.

Stainless Steel 316/1.4408
Stainless Steel 304/1.4308

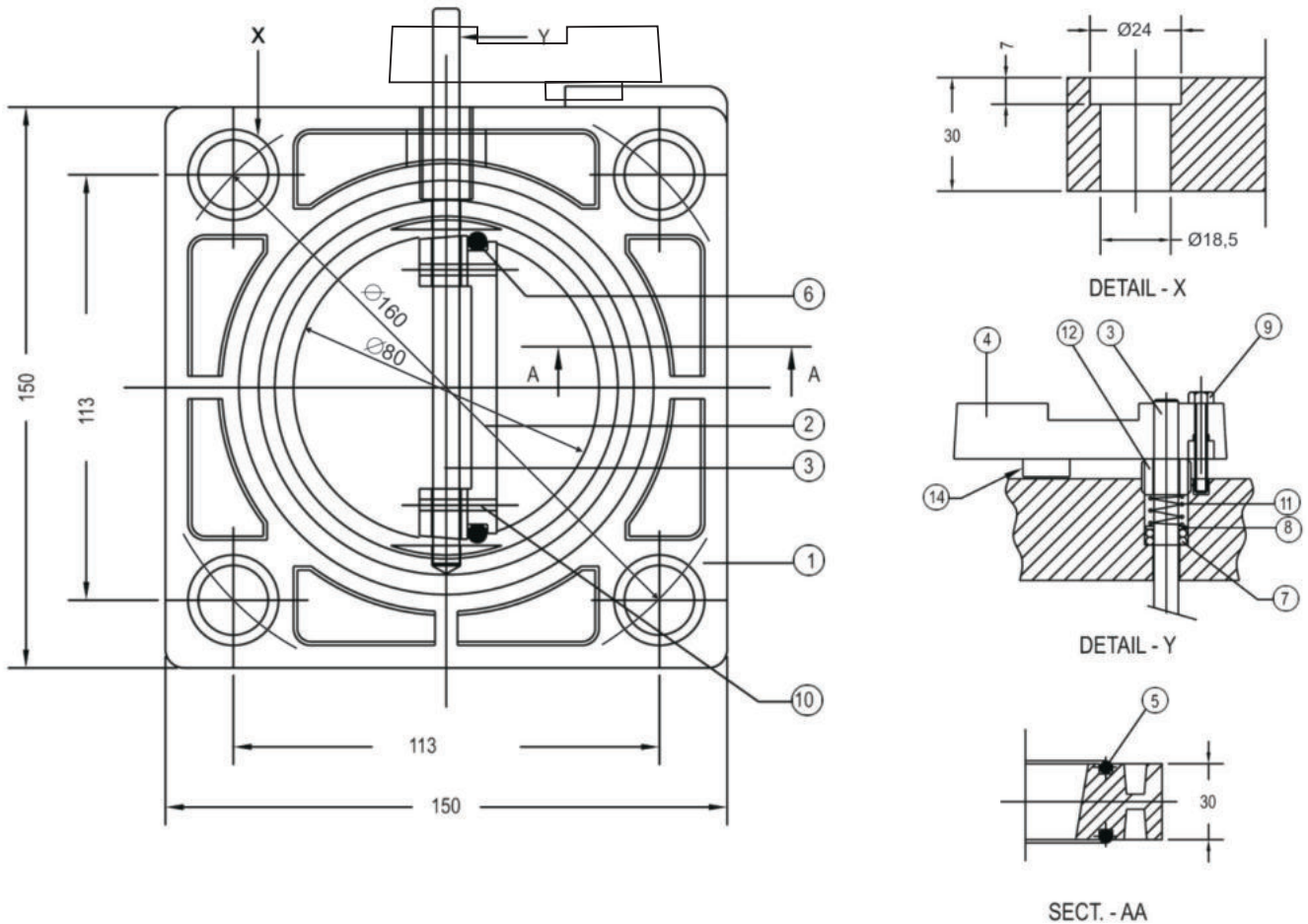
Body : Stainless steel
Valve stem seal : PTFE gland packing
Seat packing : Metal
Flange connection : Acc. to DIN2501



NO	PART NAME	MATERIAL
1	Body	1.4308 - 1.4408
2	Closing cap	1.4308 - 1.4408
3	Disc	SS 304
4	Washer	SS 304
5	Disc cover	SS 304
6	Gasket	PTFE
7	Stem	SS 304
8	Upper Cap	1.4308 - 1.4408
9	Gasket	PTFE
10	Washer	SS 304
11	Packing	PTFE
12	Gland	SS 304
13	Nut	1.4308 - 1.4408
14	Handle	AL or Bakelite
15	Washer	SS 304
16	Nut	SS 304
17	Chain	SS 304



The aluminium die casted valve body, flap and handle. Available for mounting between flanges (wafer type) of transformer tank and radiator. Absolute Zero leakage when valve is closed. Material of sealing O-rings VITON or NBR. The valve can be fixed to the transformer-flange with help of 4 special M 16 bolts.

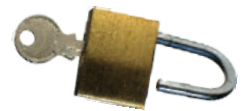
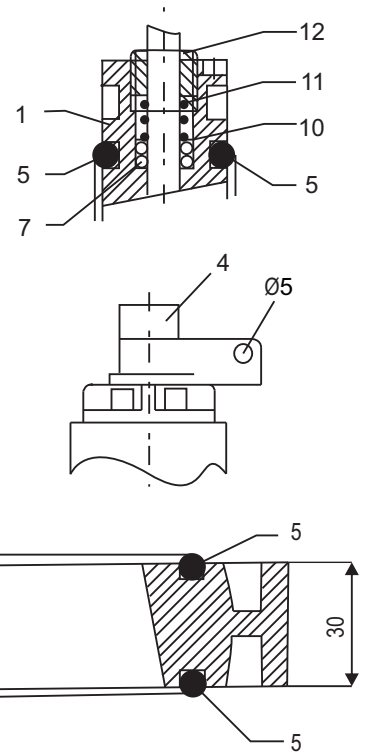
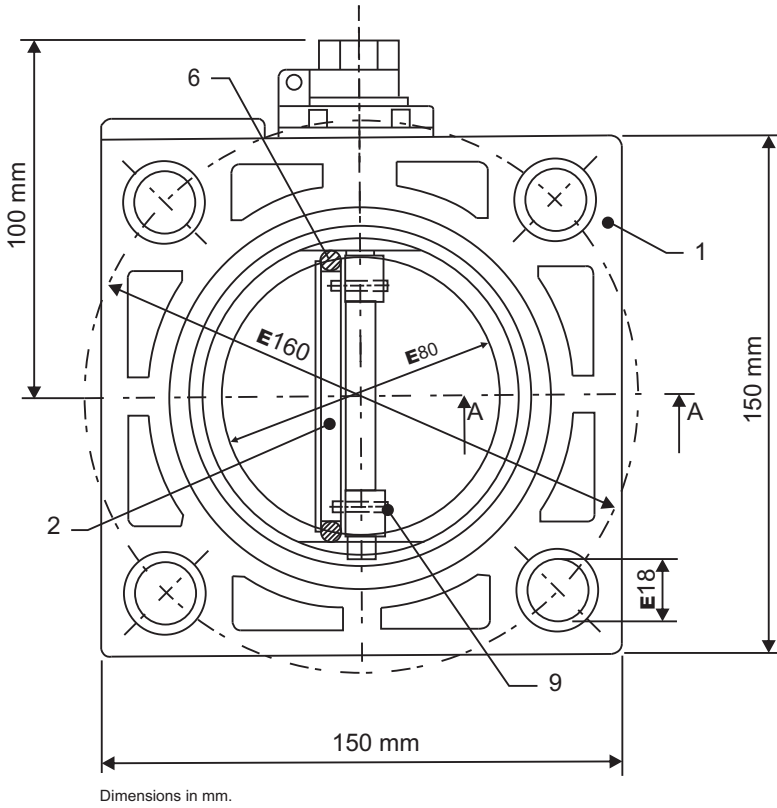


No:	Description	Material
1	Body	Aluminium
2	Flap	Aluminium
3	Shaft	St. Steel
4	Latch	Aluminium
5	O-Ring	NBR
6	O-Ring	NBR
7	O-Ring	NBR
8	Washer	A2-70
9	Screw M5x30	A2-70
10	Pin	A2-70
11	Spring	A2-70
12	Prets Screw	A2-70



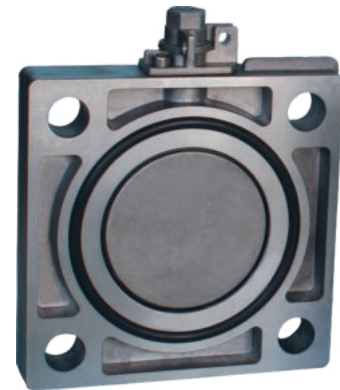
M16x101Bolt
Stainless or St37 zinc
(Optional) Required 4 Pcs for Each Valve

The aluminium die casted valve body, flap and handle. Available for mounting between flanges (wafer type) of transformer tank and radiator. Absolute Zero leakage when valve is closed. Material of sealing O-rings VITON or NBR. The valve can be fixed to the transformer-flange with help of 4 special M 16 bolts.

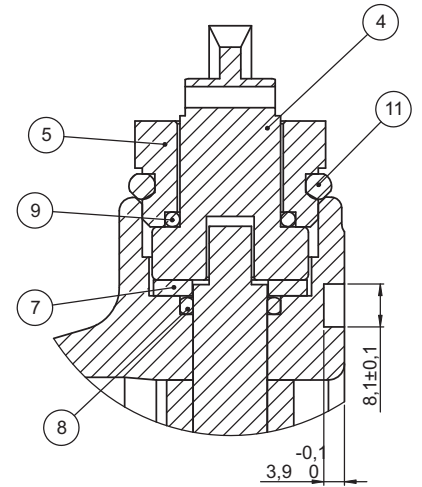
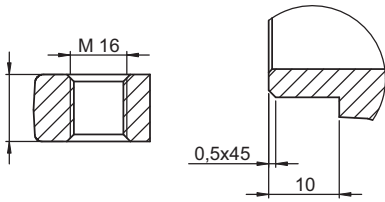
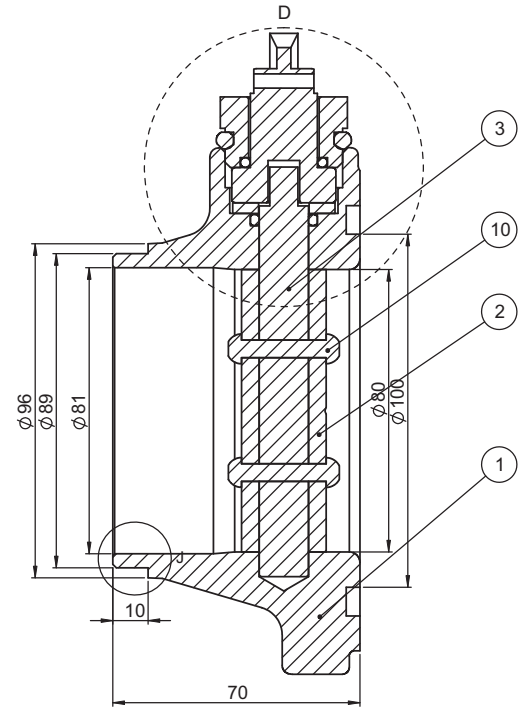
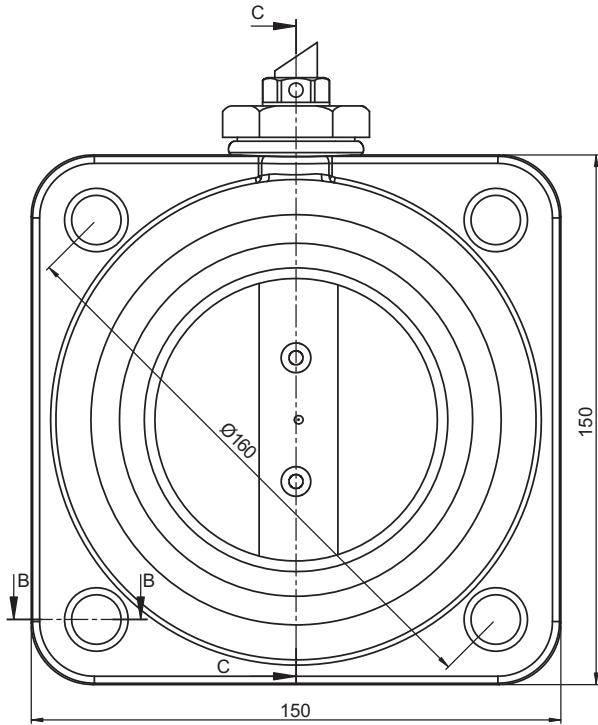


available to use pad lock

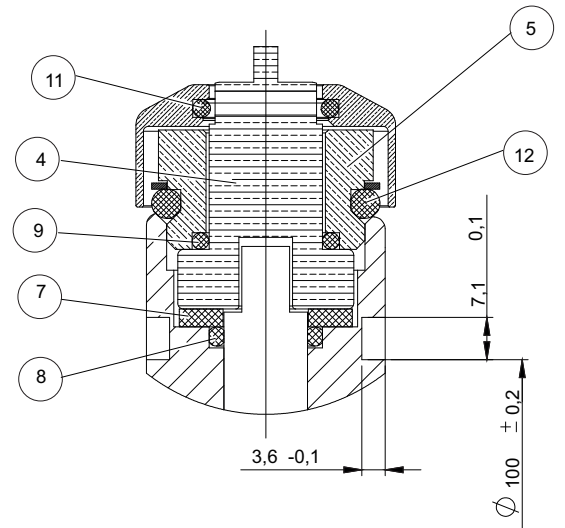
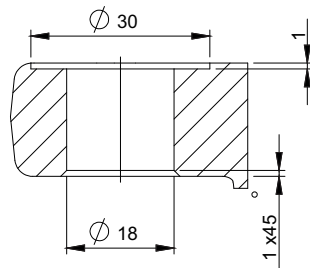
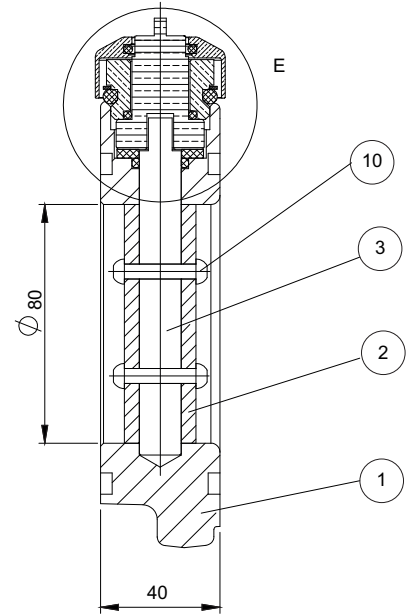
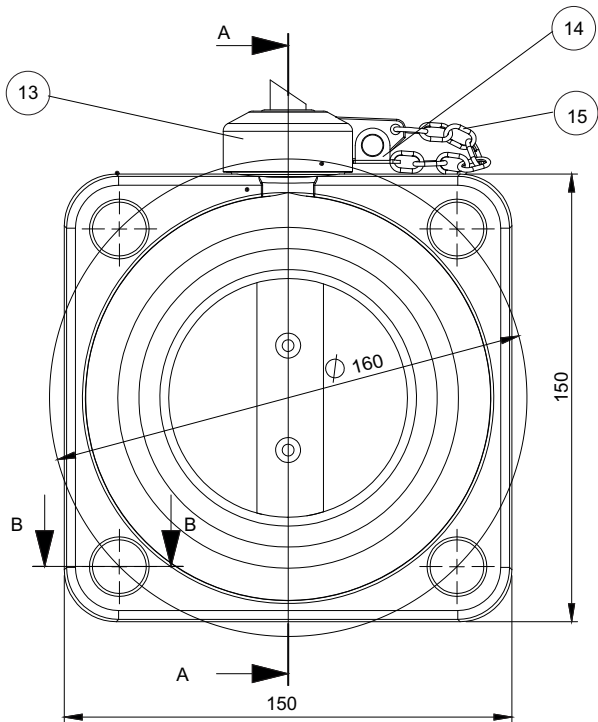
No:	Description	Material
1	Body	Aluminium
2	Flap	Aluminium
3	Shaft	St. Steel
4	Latch	Aluminium
5	O-Ring	NBR
6	O-Ring	NBR
7	O-Ring	NBR
8	Washer	A2-70
9	Screw M5x30	A2-70
10	Pin	A2-70
11	Spring	A2-70
12	Prets Screw	A2-70



M16x101Bolt
Stainless or St37 zinc
(Optional) Required 4 Pcs for Each Valve



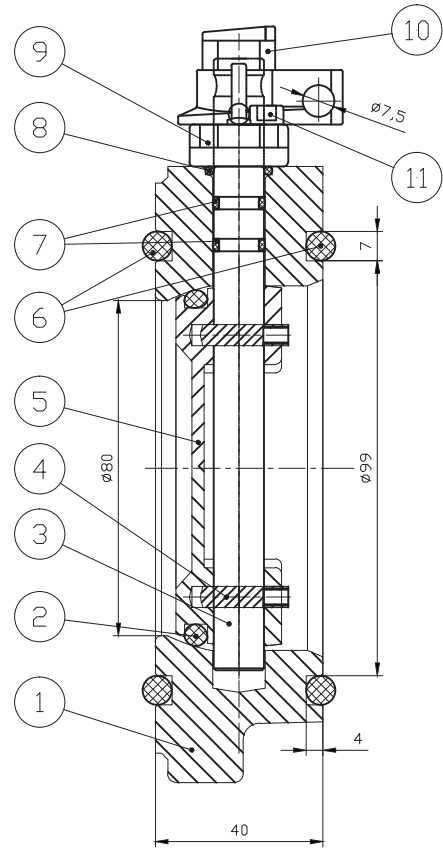
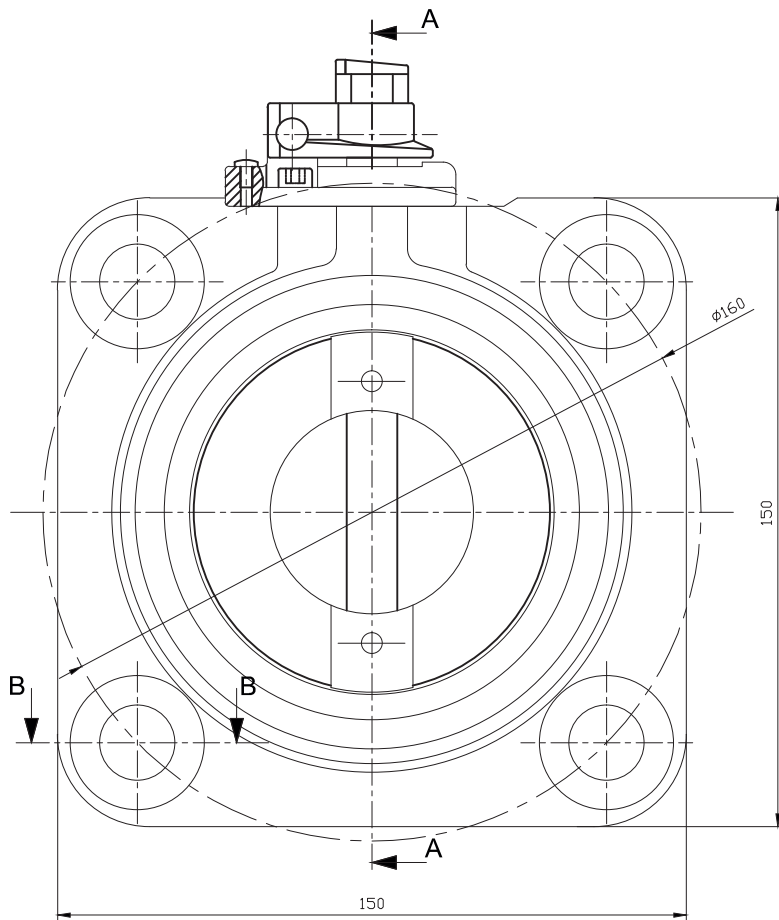
Item	Description	Material	Qty
1	Flange 42560	S355J2G3	1
2	Clap 42560	GG20	1
3	Spindle	11SMnPb30	1
4	Thrust member	Ms58	1
5	Thrust screw	Ms58	1
7	Gasket DIN 42560	AFM 39,29x14,5x3	1
8	O-ring DIN 42560	14x3 NBR	1
9	O-ring	19x3 VITON	1
10	Pin	S235JR,5x28	2
11	O-ring	28x5 VITON	1



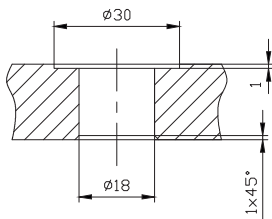
Item	Description	Material	Qty
1	Flange 42560	S355J2G3	1
2	Clap 42560	GG20	1
3	Spindle	11SMnPb30	1
4	Thrust member	Ms58	1
5	Thrust screw	Ms58	1
7	Gasket DIN 42560	AFM 39,29x14,5x3	1
8	O-ring DIN 42560	14x3 NBR	1
9	O-ring	19x3 VITON	1
10	Pin	S235JR,5x28	2
11	O-ring	19x3 VITON	1
12	O-ring (Optional)	28x5 VITON	1
13	Cap (Optional)	MS 58	1
14	Locking-ring (Optional)	Stainless Steel	1
15	Chain (Optional)	Stainless Steel	1

Items 11 - 13 - 14 - 15 - are optional





A-A SECTION

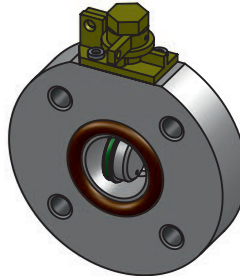
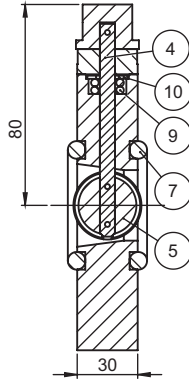
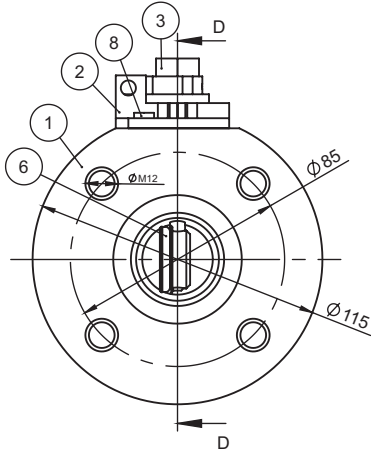


B - B SECTION



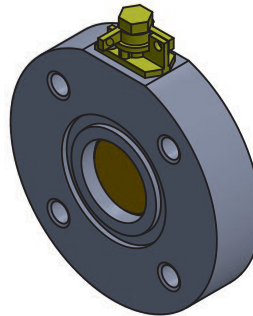
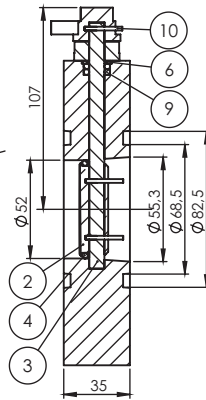
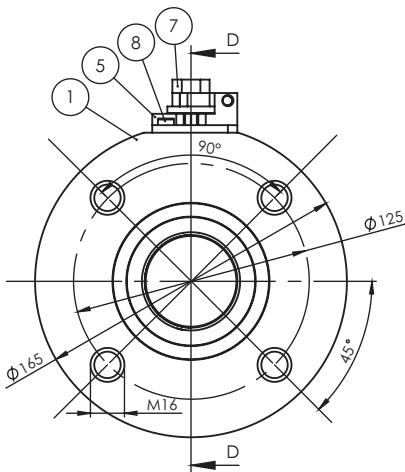
Completely Stainless Steel

DN 25



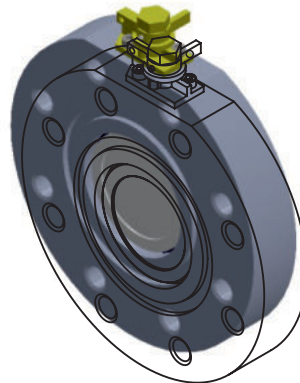
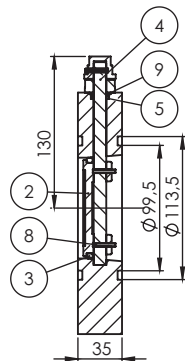
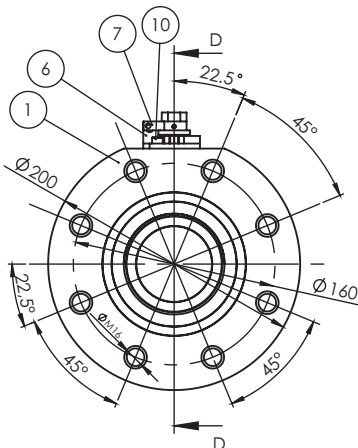
Item	Description	Material	Qty
1	Body	St37 □ SS316 □ □ Aluminium	1
2	Gland	Brass	1
3	Drive	Brass	1
4	Spindle	A2-70	1
5	Throttle Clap	Brass	1
6	O-ring	NBR □ Viton □	1
7	O-ring	NBR □ Viton □	2
8	Bolt	A2-70	2
9	O-ring	NBR □ Viton □	2
10	Washer	A2-70	1

DN 50

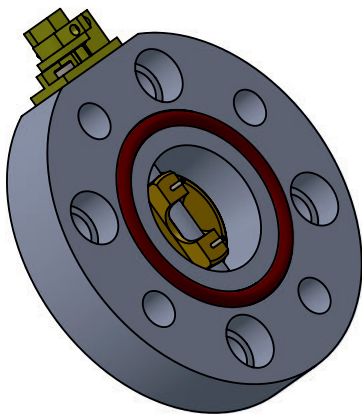
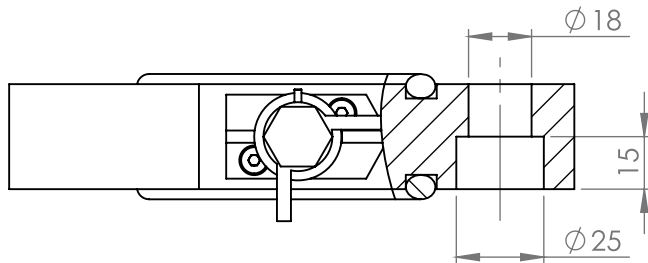
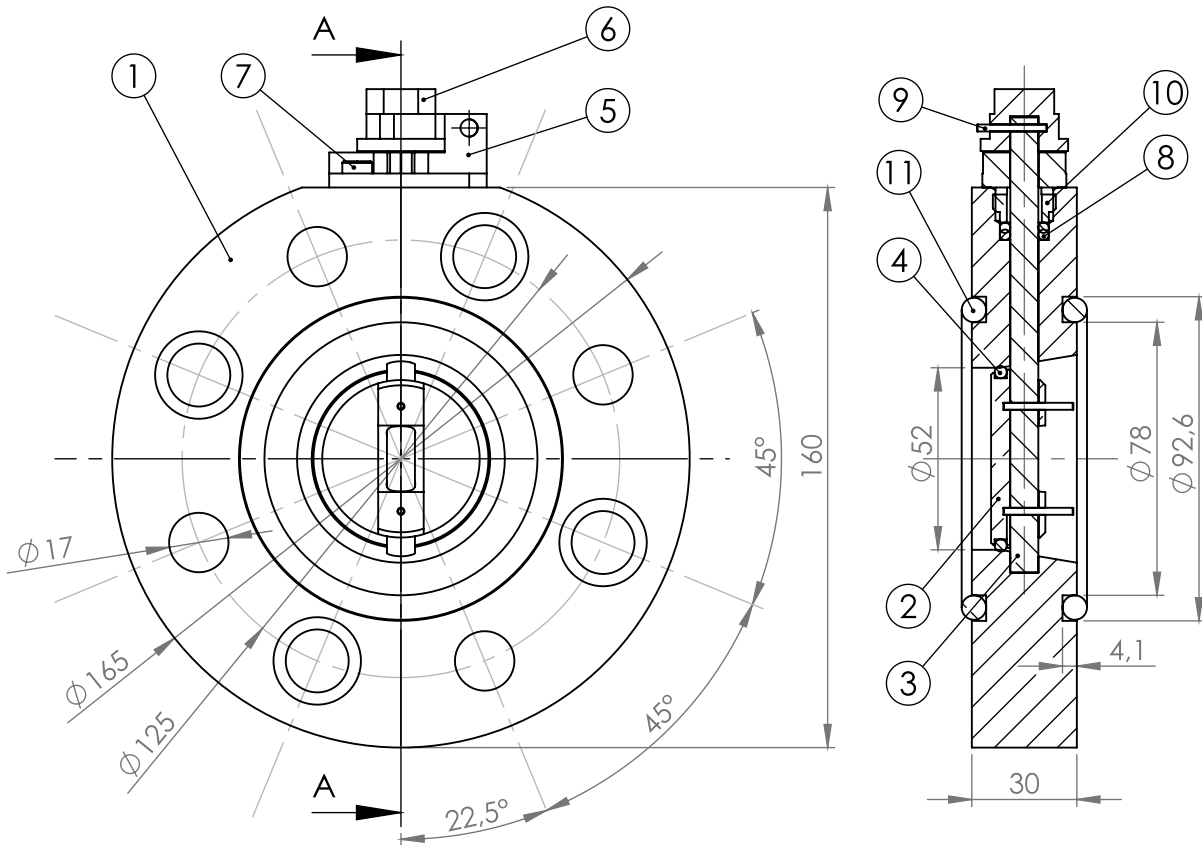


Item	Description	Material	Qty
1	Body	St37 □ SS316 □ □ Aluminium	1
2	Throttle Clap	Brass	1
3	Spindle	A2-70	1
4	O-ring	NBR □ Viton □	1
5	Gland	Brass	1
6	Washer	A2-70	1
7	Drive	Brass	1
8	Bolt	A2-70	2
9	O-ring	NBR □ Viton □	2
10	Spring Pin	A2-70	3

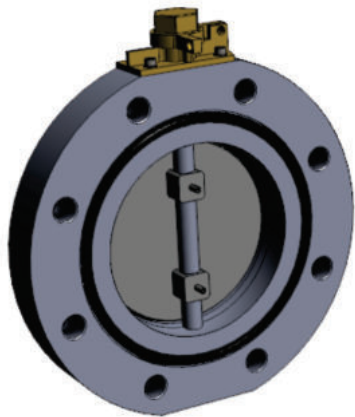
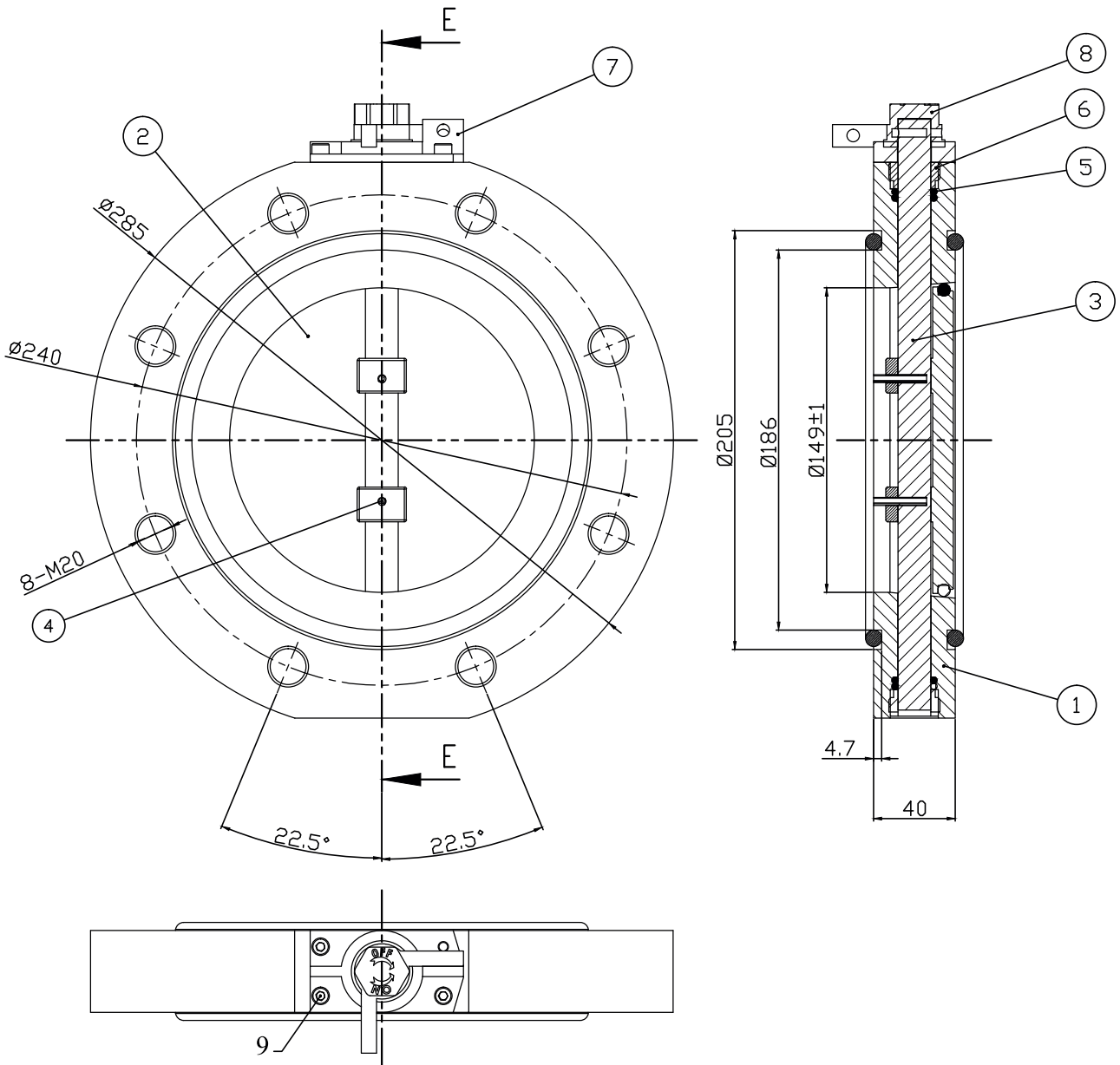
DN 80



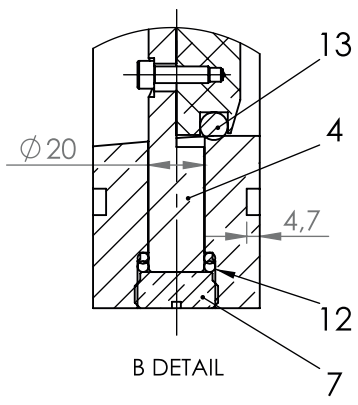
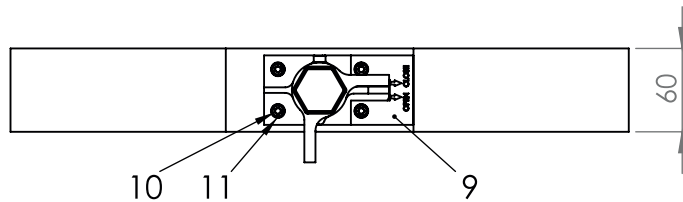
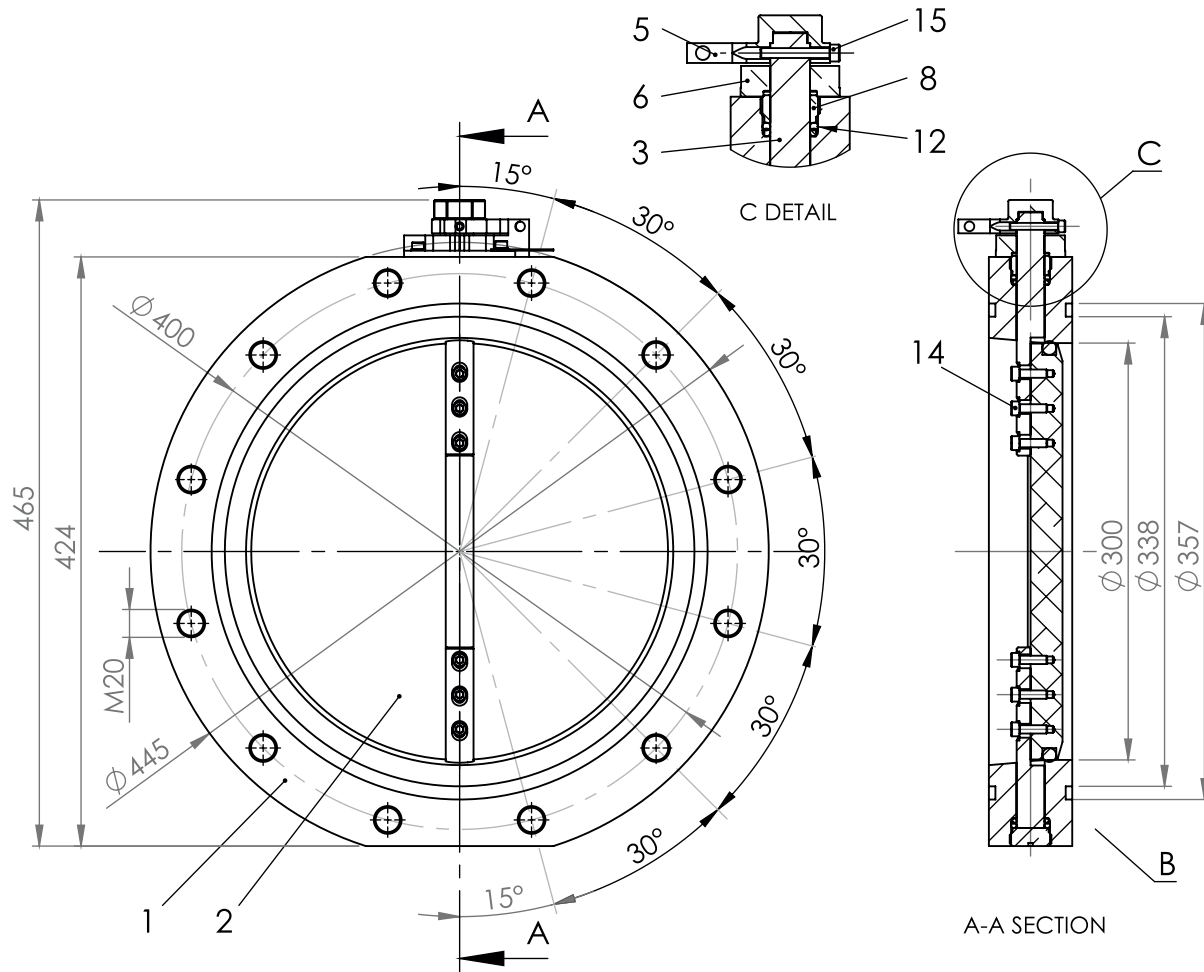
Item	Description	Material	Qty
1	Flange Body	St37 □ SS316 □ □ Aluminium	1
2	Throttle Clap	Brass	1
3	O-ring	NBR □ Viton □	1
4	Spindle	A2-70	1
5	O-ring	NBR □ Viton □	2
6	Gland	Brass	1
7	Drive	Brass	1
8	Spring Pin	A2-70	3
9	Washer	A2-70	1
10	Bolt	A2-70	2



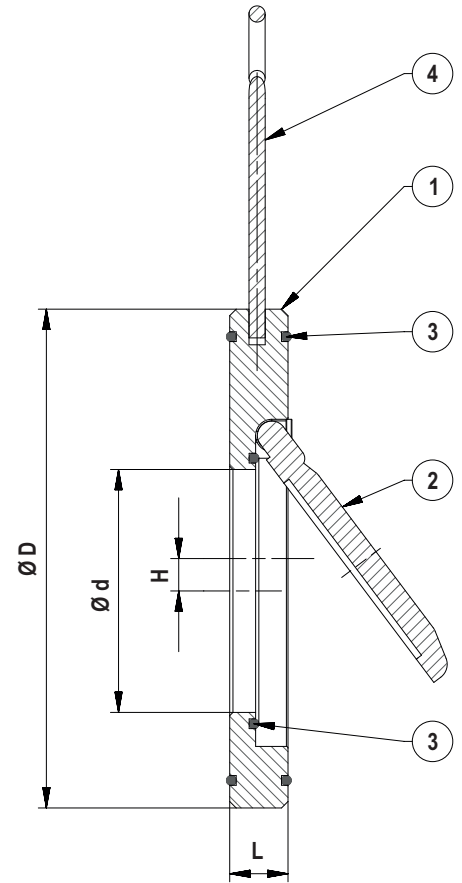
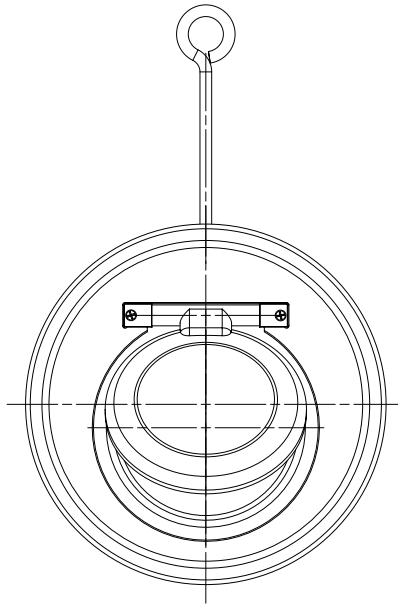
NO	DESCRIPTION	MATERIAL	QTY
1	Flange Body	St37 □ SS316 □ □ Aluminium	1
2	Throttle Clap	Aluminium	1
3	Sheft Ø 8	SS316	1
4	O-Ring 44x3,5	NBR / Viton / FVMQ	1
5	Gland	BRASS	1
6	Drive	BRASS	1
7	DIN 7984 - M5 x20	A2-70	2
8	O-Ring 8x3	NBR / Viton / FVMQ	2
9	Pin	A2-70	3
10	Clap O-Ring Nut	BRASS	1
11	O-Ring 78x7	NBR / Viton / FVMQ	2



NO	DESCRIPTION	MATERIAL	QTY
1	Throttle Clap	St37 □ SS316 □ □ Aluminium	1
2	Clap	Aluminium	1
3	Shaft Ø16	A-70 Staines Steel	1
4	Ø 5 Spring Pin	Staines Steel	2
5	O-Ring Ø 16x3	NBR / Viton / FVMQ	1
6	Pressing Ring	Brass	2
7	Gland	Brass	1
8	Drive	Brass	1
9	Screw M5x10	Staines Steel	4



NO	DESCRIPTION	MATERIAL	QTY
1	Flange Body	St37 □ SS316 □ □ Aluminium	1
2	Throttle Clap	Aluminium	1
3	Top Shaft Ø 20	SS304	1
4	Bottom Shaft Ø 20	SS304	1
5	Drive	BRASS	1
6	Bearings	BRASS	1
7	Blind Plug	BRASS	1
8	Pressing Nut	BRASS	1
9	Open - Close Tab	SS304	1
10	Bolt DIN 912 - M5 x 10	A2-70	4
11	Washer DIN 125 - B 5.3	A2-70	4
12	O-Ring 20x4	NBR / Viton / FVMQ	4
13	O-Ring 268x10	NBR / Viton / FVMQ	1
14	Bolt DIN 912 - M6 x 20	A2-70	6
15	Bolt DIN 912 - M5 x 35	A2-70	1



MATERIALS (GS-C 25 - GP240GH)

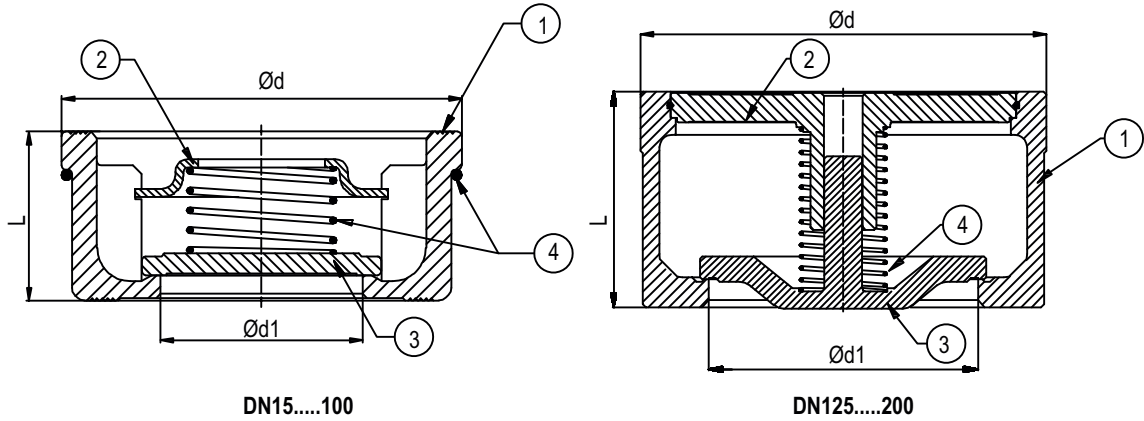
Parça No	Part Name	Material
1	Body	Cast Carbon Steel + Nickel Plated (T-0430)
2	Disk	Cast Carbon Steel + Nickel Plated (T-0430)
3	O-Ring	EPDM - NBR
4	Eye Bolt	Steel + Nickel Plated

MATERIALS (G-X6CrNi - AISI303)

Parça No	Part Name	Material
1	Body	G-X6CrNi 18 9 - Cast Stainless Steel (T-0450)
2	Disk	G-X6CrNi 18 9 - Cast Stainless Steel (T-0450)
3	O-Ring	EPDM - NBR
4	Eye Bolt	Steel + Nickel Plated

Dimensions

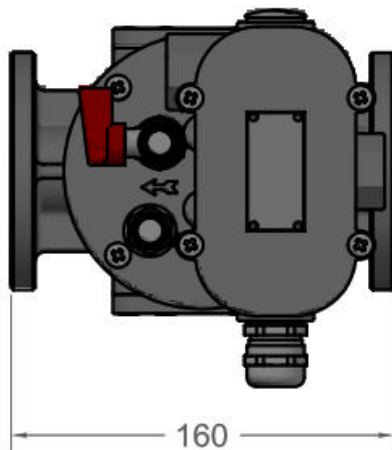
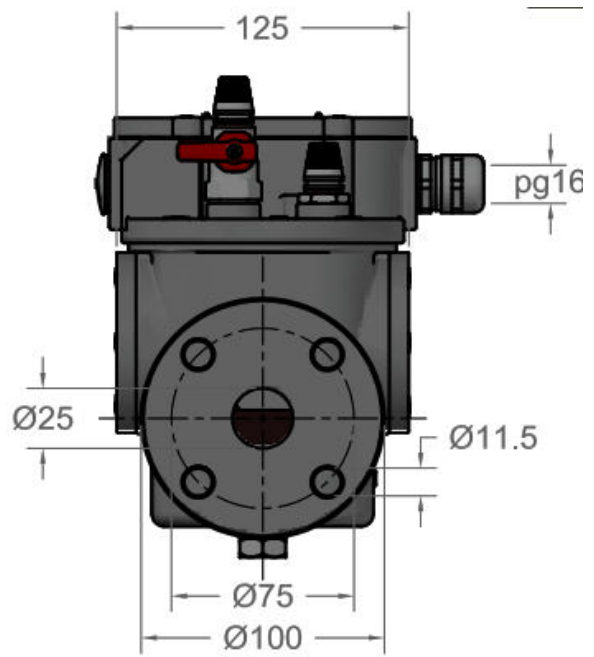
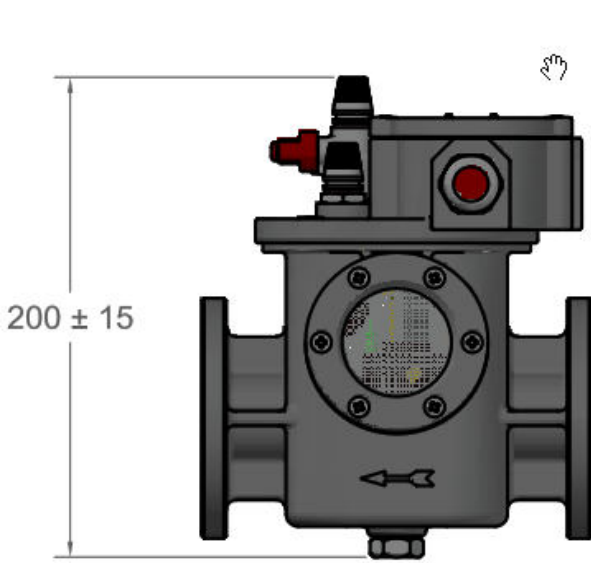
Nominal Pressure		16 Bar															
Nominal Diameter		DN	40	50	65	80	100	125	150	200	250	300	350	400	500	600	
Valve Dimensions	ØD	92	107	127	142	162	192	218	273	329	384	444	491	610	724		
	Ød	22	32	40	54	70	92	114	154	200	235	280	316	405	486		
	L	14				18				20	22	26	28	38	44	56	62
	H	0		2	3	4	5	6	8	9	10	11	12	13	15		
Weight	kg	0,7	0.8	1.2	1.5	2.3	4.1	4.1	7	12	18	22	25	30	40		



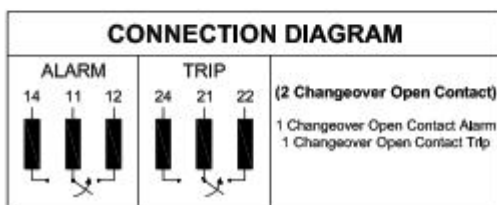
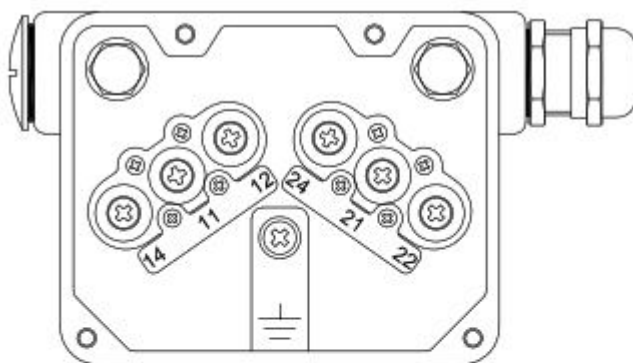
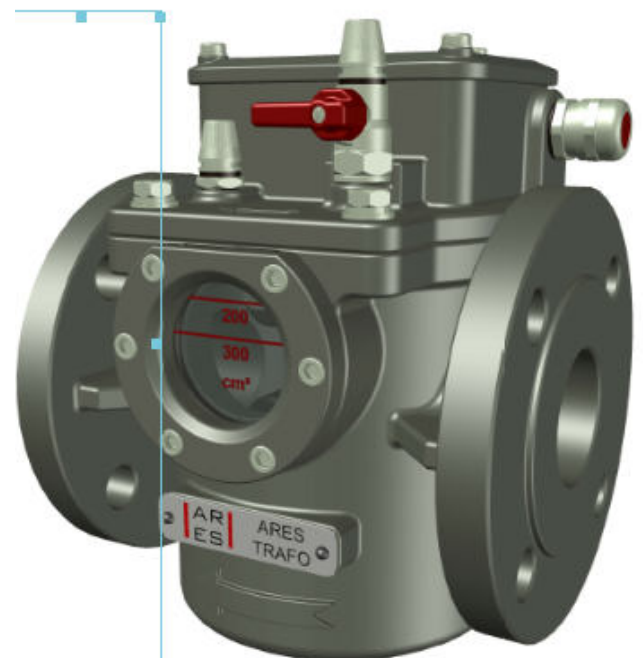
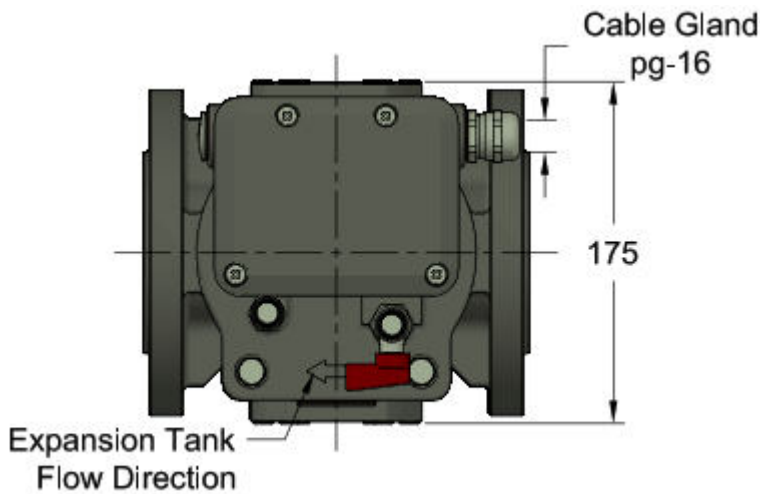
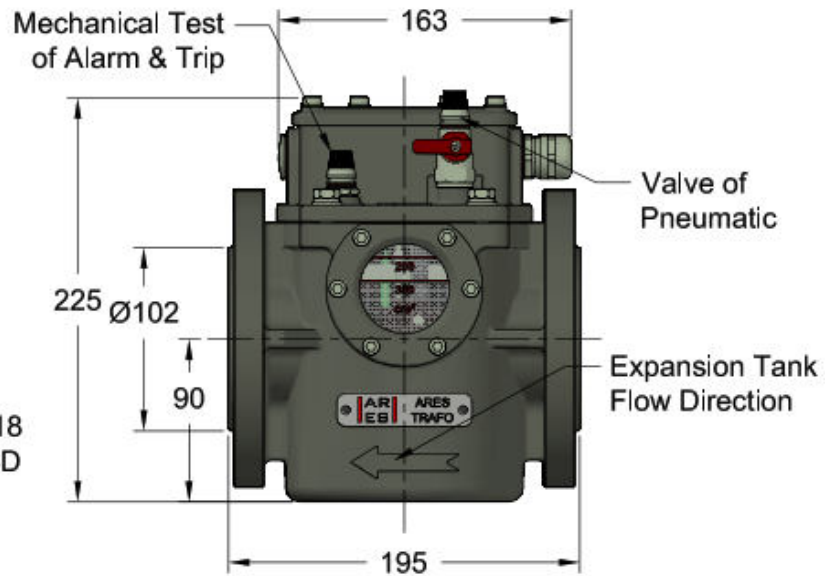
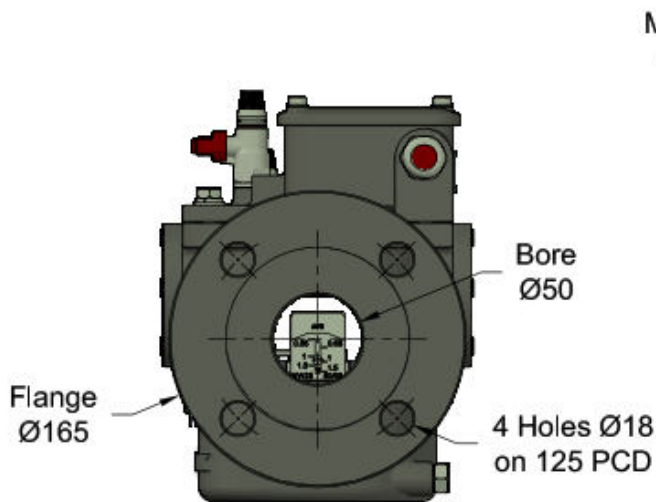
NO	Size	Dimensions %±15			Minimum Opening Pressure mBar				Working Temperature		Weight -kg			
					Flow Direction									
					With Spring		With Spring		°C	PN				
1	15	40	15	16	→	↓	↑	↓	-10 +120	16	0.09			
2	20	47	20	19	←	↓	↑	↓			2.6	0.13		
3	25	56	25	22	←	↓	↑	↓			18.3	0.20		
4	32	72	31.5	28	←	↓	↑	↓			16.3	3.9	0.46	
5	40	82	39	31.5	21	↓	↑	↓			16.2	24	4	0.60
6	50	95	48	40	←	↓	↑	↓			16.1	25	4.2	0.97
7	65	115	64	46	←	↓	↑	↓			15	25	5.1	1.36
8	80	132	74	50	←	↓	↑	↓			13.7	26	5.6	2.07
9	100	152	89	60	←	↓	↑	↓			12.5	26.5	7.4	3.00
10	125	184	112	90	22	↓	↑	↓			12	30	15	6.80
11	150	209	132	106	23.5	↓	↑	↓			13	32.5	17	10.00
12	200	264	175	140	26	↓	↑	↓			14.5	35	18.5	20.00

		DN15...100	DN125...200
NO	Description	Material	Material
1	Body	Brass (CuZn40Pb2)	Steel
2	Centering	AISI 316	Steel
3	Throttle	AISI 316	Steel
4	Spring	AISI 316	AISI 316

Final Paint : RAL 9006 White alu



CONNECTION DIAGRAM		
<p>ALARM</p>	<p>TRIP</p>	<p>(2 Normally Open Contact)</p> <p>1 Normally Open Contact Alarm 1 Normally Open Contact Trip</p>
<p>ALARM</p>	<p>TRIP</p>	<p>(2 Changeover Open Contact)</p> <p>1 Changeover Open Contact Alarm 1 Changeover Open Contact Trip</p>



Inner Diameter of the Oil Inlet : 80 mm.

Connection Diameter : Flanged

Nominal Voltage : AC / DC 230V

Nominal Current : AC / DC 2A

Surface Protection : 60 ± 10 micron,
Electrostatic powder paint RAL-7033

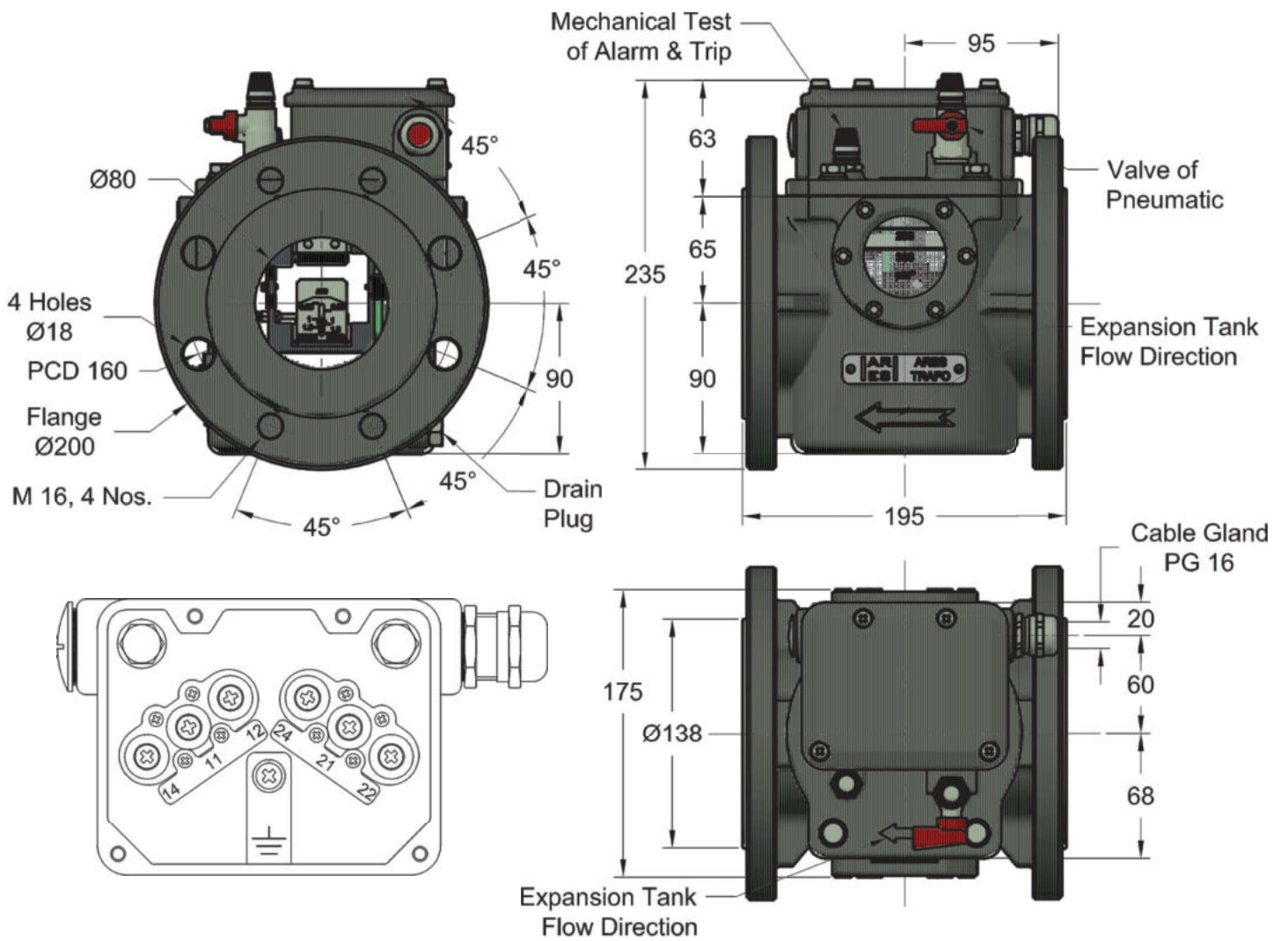
Working ranges of contact systems :-

Gas Accumulation : 200 - 300 cm³

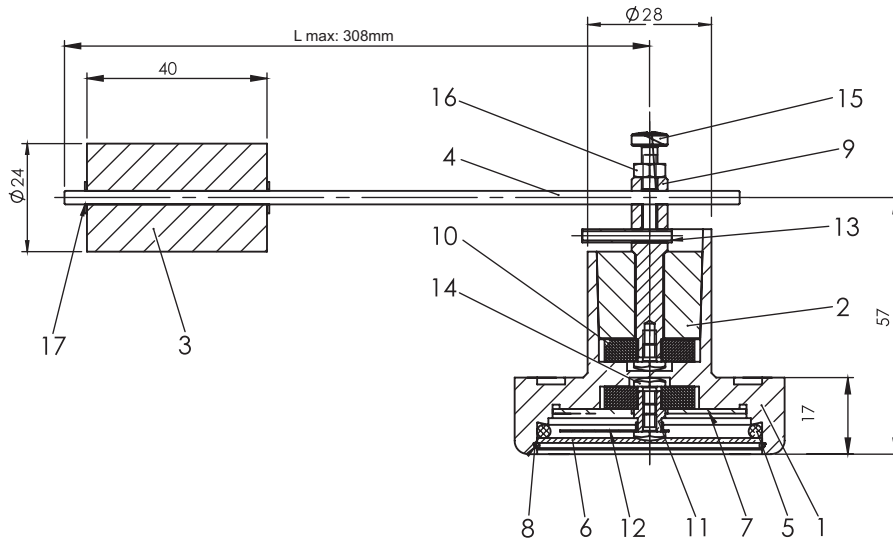
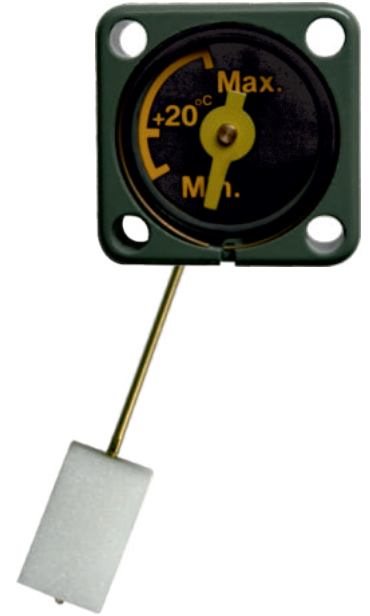
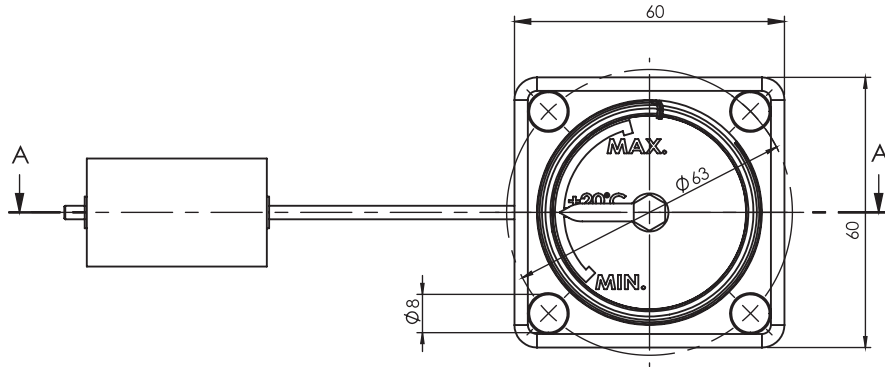
Oil Flow Velocity : 1.00m/s

Flap Reaction Time : <0.5 s

Protection Class : IP-65



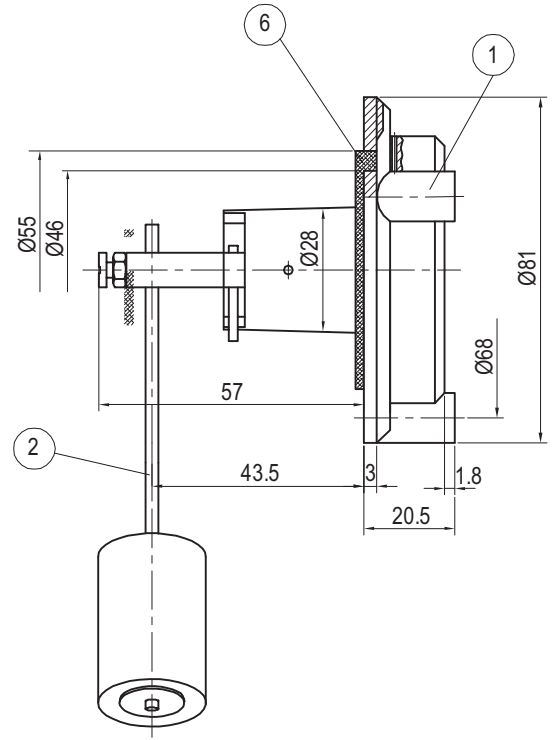
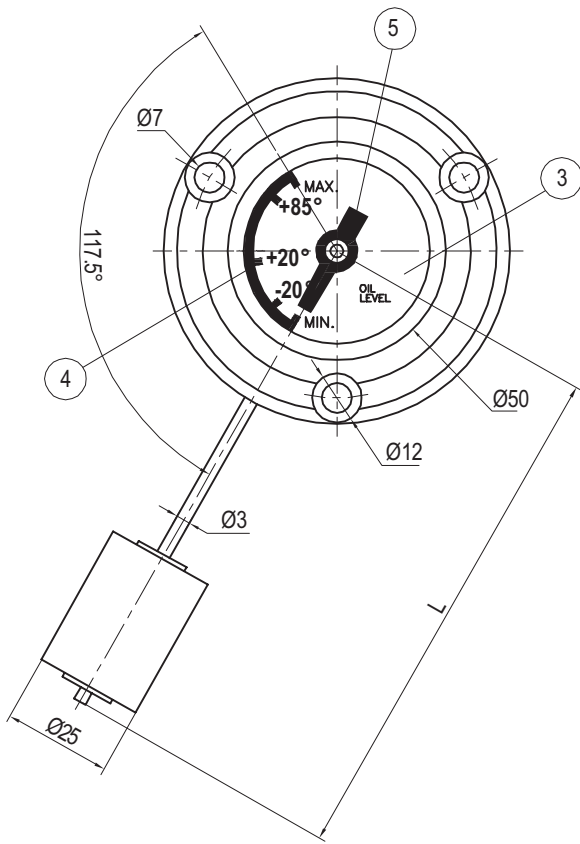
The radial movement of the float is transmitted magnetically to the pointer. The magnet connected to the float-lever mechanism, drives the polarized indicator magnet connected to the pointer.



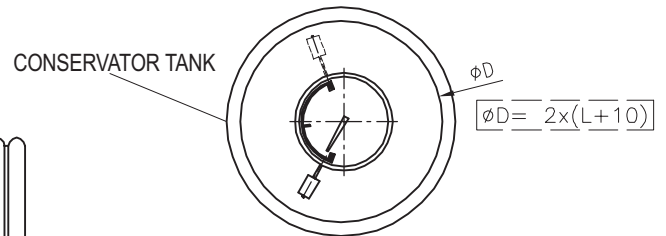
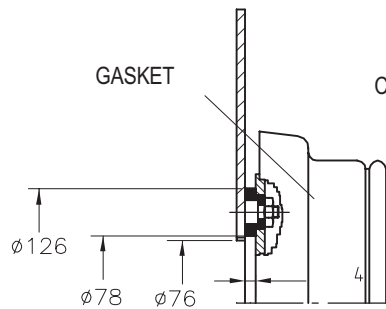
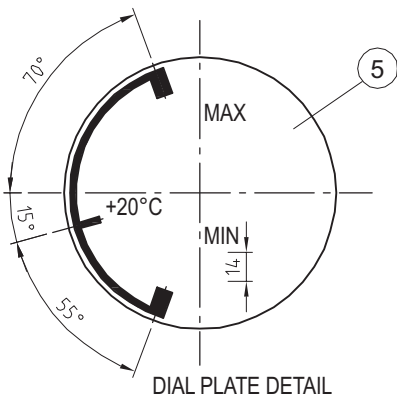
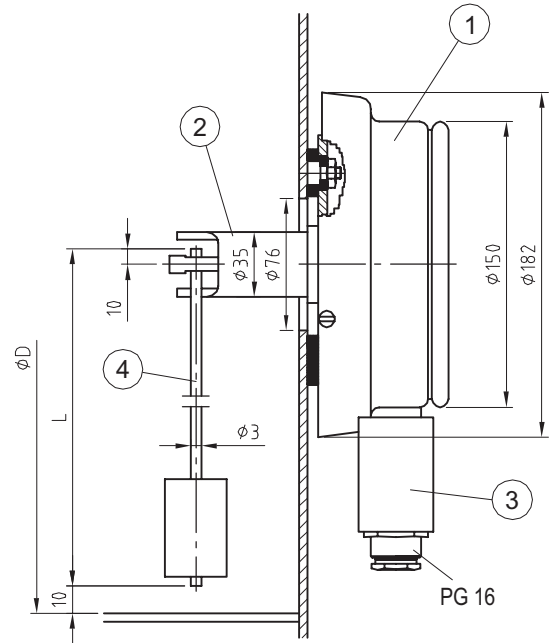
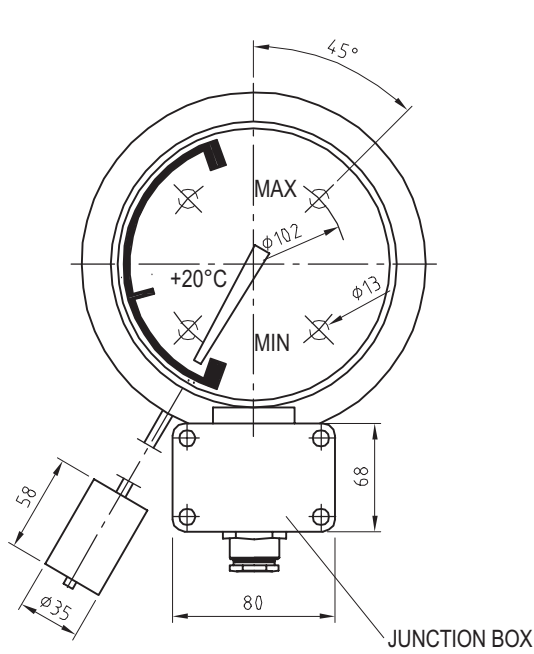
The float lever is delivered with 308 mm length as standard. It's length can be freely adjusted by the customer.

Case	Injected aluminium RAL 7033
Indicator dial	Aluminium sheet
Pointer	Brass
Indicator glass	Polycarbonate
Joint glass	Nitrile rubber
Float	Cellular type plastic foam

Nr	Part Name	Part Number	Material	Qty
1	Body	DIN 42569 A-1	GD-AL lack. RAL 7033	1
2	Roll	DIN 42569 A-2	PA 6	1
3	Fleat	DIN 42569 A-3	Rohacell 51 IG	1
4	Handle for Fleat	DIN 42569 A-4	Ms 70	1

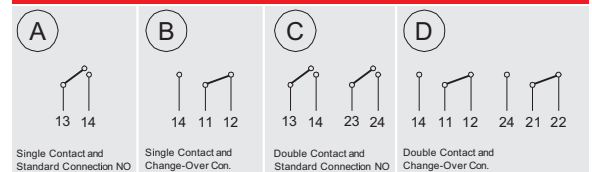


Item	Qty	Description	Technical Date / Designation
6	1	FLAT GASKET	NBR LP 1100
5	1	ARROW	Brass Ms58
4	1	DIAL PLATE	ALUMINIUM
3	1	FRONT GLASS	Polycarbonate 143 R
2	1	FLOAT LEVER	Brass Ms 70
1	1	MAIN BODY	ALUMINIUM

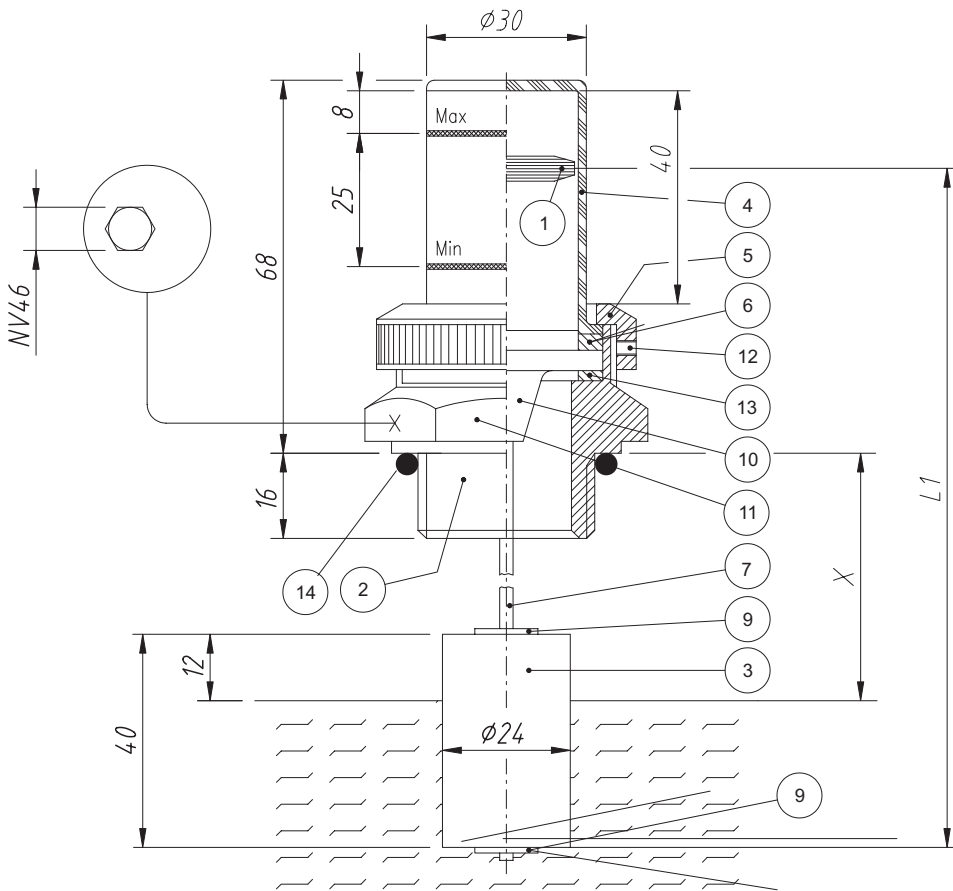


Item	Qty	Description	Technical Date / Designation
6	1	FLAT GASKET	NBR LP 1100
5	1	ARROW	Brass Ms58
4	1	DIAL PLATE	ALUMINIUM
3	1	FRONT GLASS	Polycarbonate 143 R
2	1	FLOAT LEVER	Brass Ms 70
1	1	MAIN BODY	ALUMINIUM

CONNECTION DIAGRAM Acc. to EN 50005



This type of oil level indicator is used in hermetically sealed transformers. The oil level gauge is screwed into the tank without gas cushion. It shows the level of the oil in the filling pipe and thus offers the possibility to monitor for; Gas formation in the transformer, accumulation of air pockets in the tank, indicator of large leaks from the tank. Highly visible red indicator for oil level and each completely assembled unit, pressure tested.

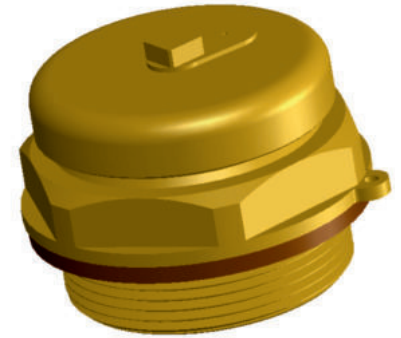
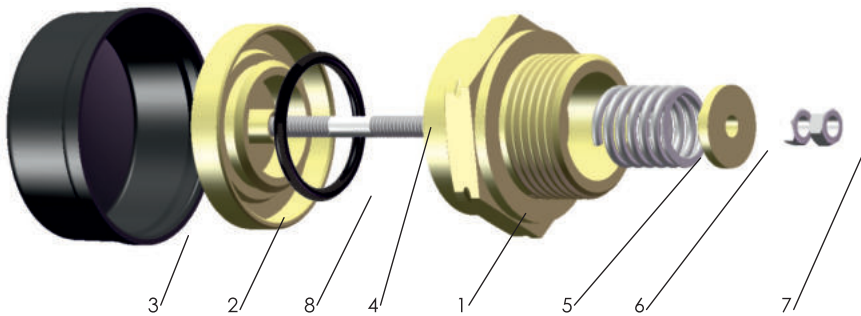
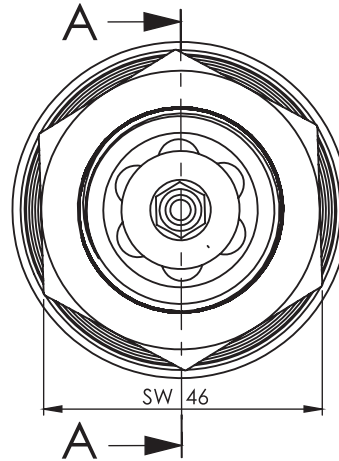
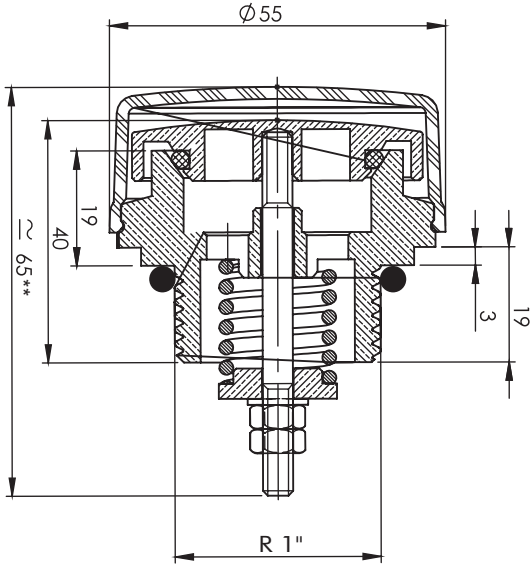


Nr	Part Name
1	Max Pointer
2	Brass Body
3	Float
4	Screen
5	Brass Ring
6	Sealing Or
7	Float Shaft
9	Ring Stopper
10	Center Ring
11	Brass Body
12	Lock Screw
13	Nbr Gasket
14	O-ring or Flat Gasket

Please inform us about required L1 dimension on order



The pressure safety valve is used as a safety element in distribution transformers but it is also suitable for hermetically sealed type transformers.



Pressure Safety Valve R 2"

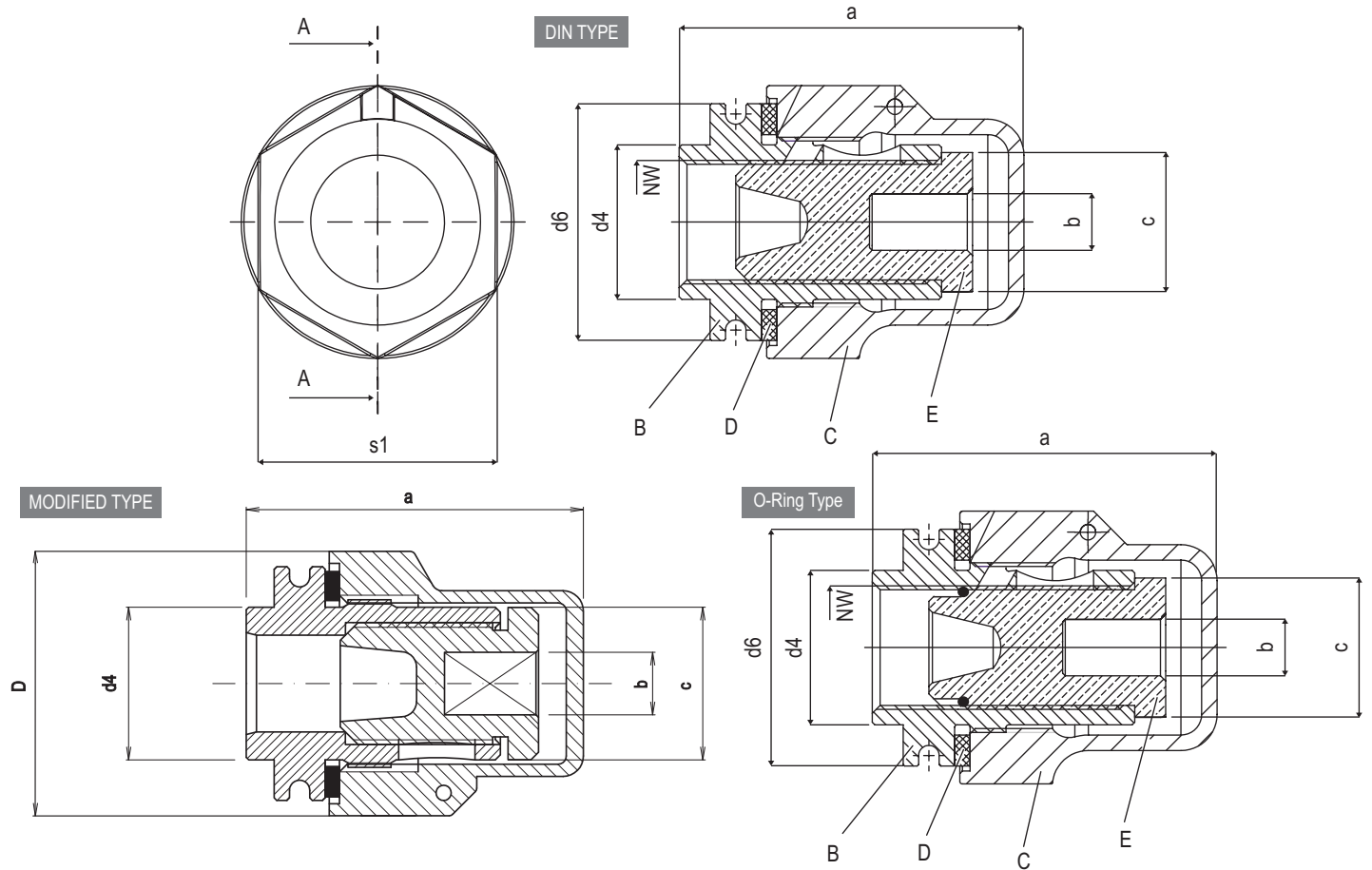
Pos. No.	Qty.	Description	Material
1	1	Body of valve	Cu Zn39 Pb3
2	1	Cap of valve	Cu Zn39 Pb3
3	1	Protection cap	Plastic- Pa6
4	1	Stud bolt	M 5x60 A2
5	1	Spring	Ø19x2x24
6	1	Washer	Cu Zn39 Pb3
7	2	Nut	M5-A2 DIN 934
8	1	O-Ring or Flat Gasket	NBR70

These pressure safety valves are available from operating pressure of 0.2 bar to 0.7 bar. Non-standard pressure setting can also be provided on request. The long type pressure safety valve can also be manufactured with a long coil spring as the customer request.

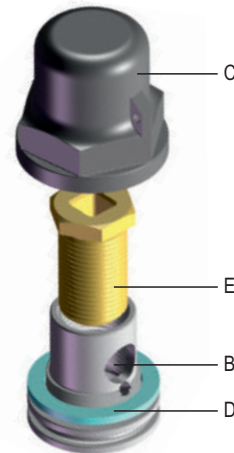
When pressure rises beyond the preset limit in the transformer tank the shutter moves up with the 'O' ring, thus releasing the excess pressure. When the pressure falls to allowable values, the spring forces the shutter back to its position automatically. The excess pressure must be relieved immediately in order to avoid damage to the transformer tank.

** Longer pressure safety valve is possible

The oil draining device is to be welded in the transformer case. The device is to be used together with the connection pipe F DIN 42551 for draining the transformer case for regeneration purpose of the oil. The oil drain device remains tight even if the oil temperature rises to 100° C (Temperature Resistance: up to 100° C)

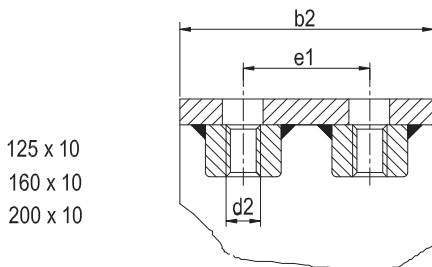
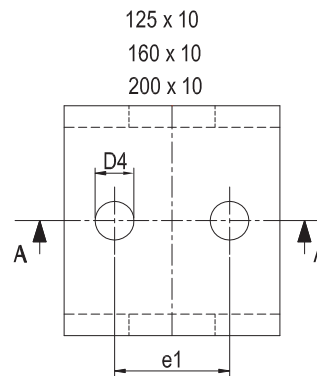
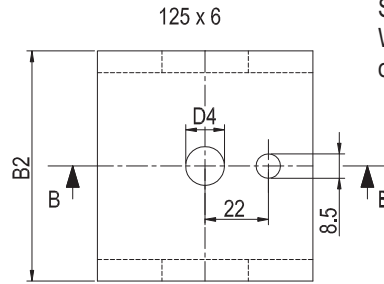
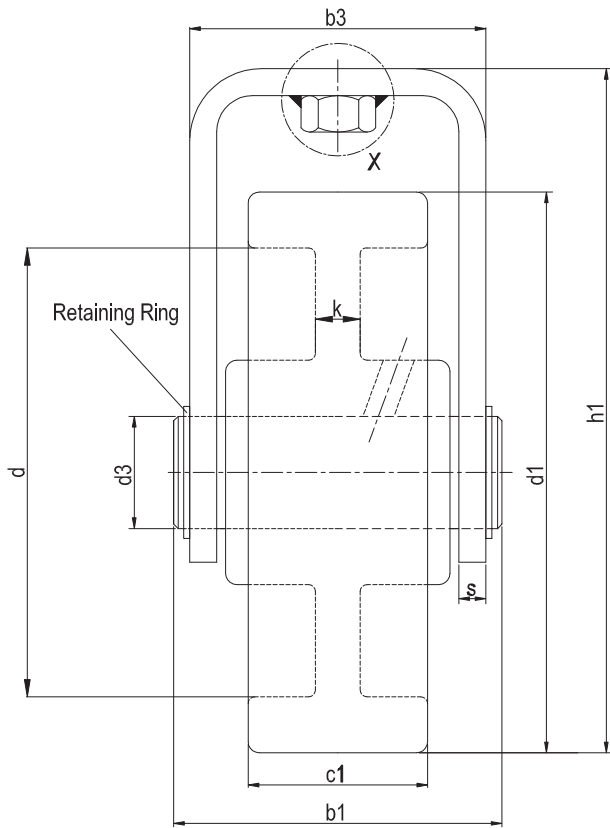


Brass/Aluminium stop plug is possible

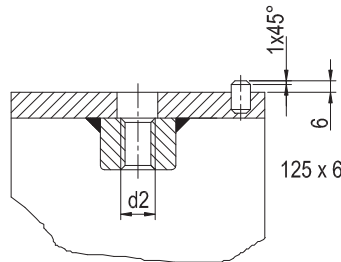


NW	a	d4	b	c	s1 / d6	Weight
NW22	67	30	11	SW27	SW46	0.56 kg.
NW31	93	40	17	SW36	SW65	1.29 kg.
NW40	112	52	17	SW46	SW80	2,25 kg.

Qty	Code	Designation	Material
1	B	Drain Socket	S235JR
1	C	Stop Plug	Gg20
1	D	Gasket	Klingerid
1	E	Inner Bolt	Ms 58



A-A Section



B-B Section

Parts

Wheel Housing	Steel (St-37)
Wheel	Cast Iron (GG-20)
Axle	St-37 or St. Steel

Stainless steel retaining ring is possible.
We can manufacture your special designs of wheels with your sample or drawing.



Note: DIN type 125x10 and 160x10 has only 1 nut at center
Different designs are possible to produce

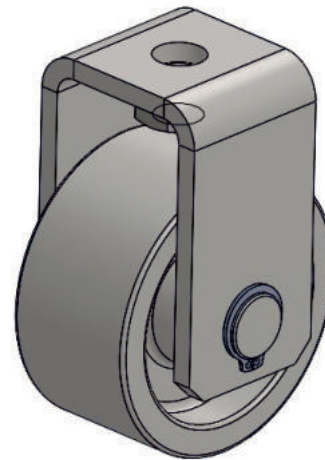
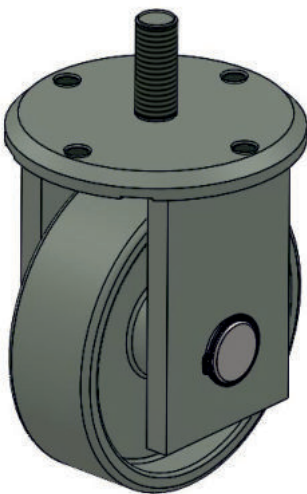
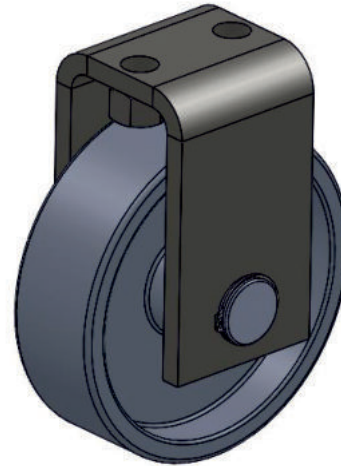
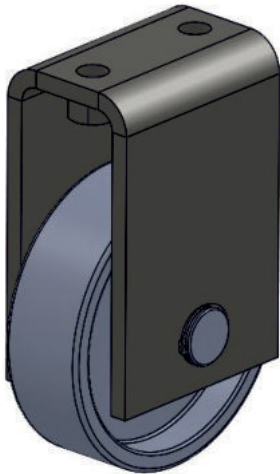
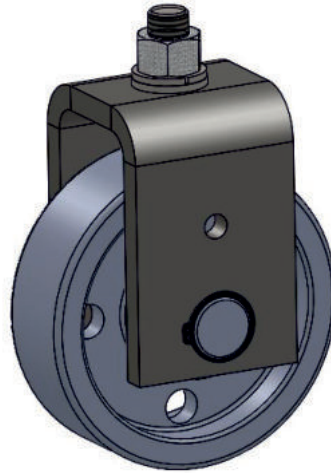
Surface options

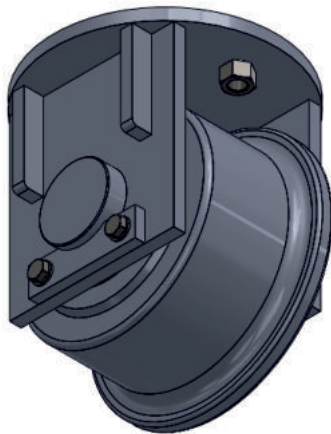
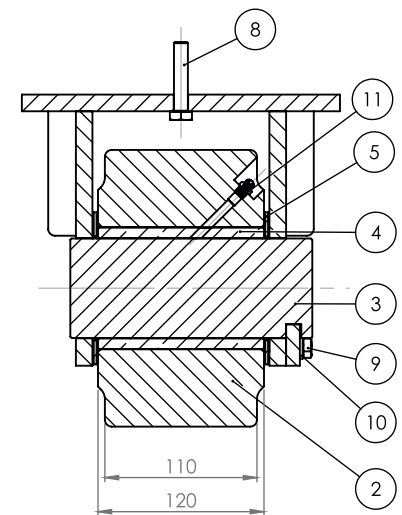
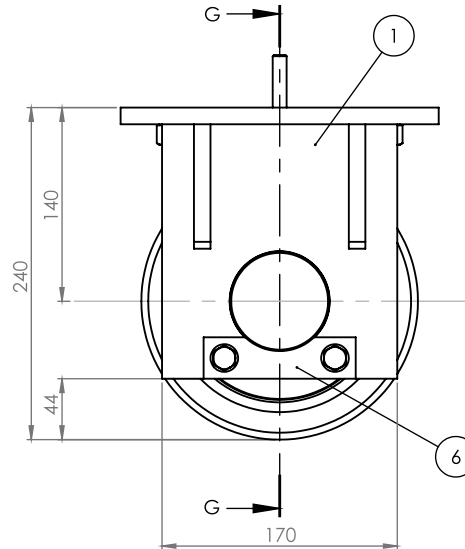
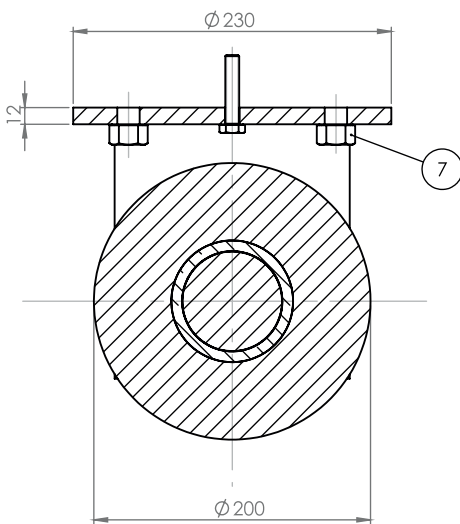
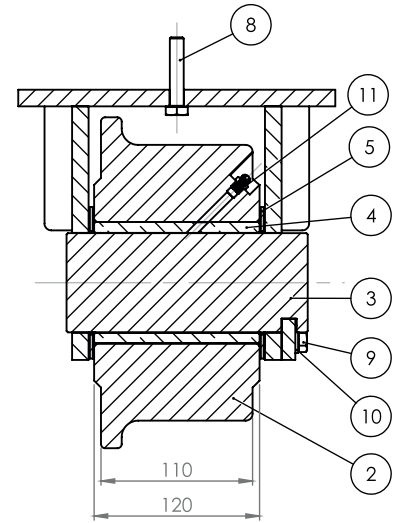
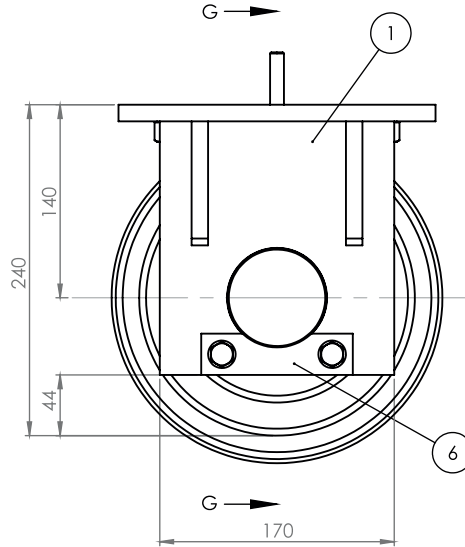
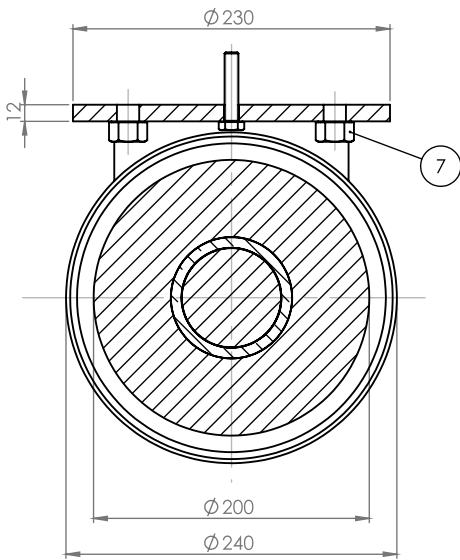
Zinc Plating / Hot dipped galvanizing /
Wet or Electrostatic powder painting
(RAL 7033)

d1	Ød	k	s	b1	b2	b3	c1	d2	d3	e1	h1	capacity	weight
125	100	10	6	75	60	66	40	M12	25	-	152	1200 (kg)	3.20
125	100	10	10	83	70	74	40	M12	25	46	152	2500 (kg)	3.90
160	135	15	10	95	80	84	50	M12	32	56	195	3500 (kg)	6.70
200	160	17.5	10	132	120	105	70	M12	50	80	230	6000 (kg)	15.75

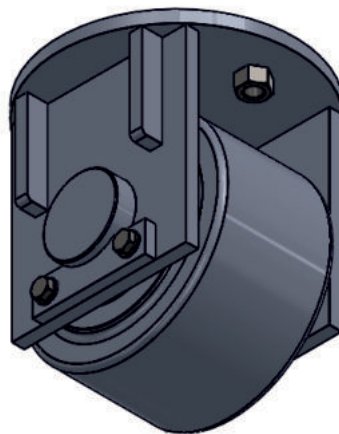
THIN TYPE			
d1	Ød	k	weight
125	109	6	2.50
125	109	6	3.15
160	138	8	5.40
200	175	8	12.00

Material : Steel
Surface : Hot dip galvanizing
C4M paint
C5M paint



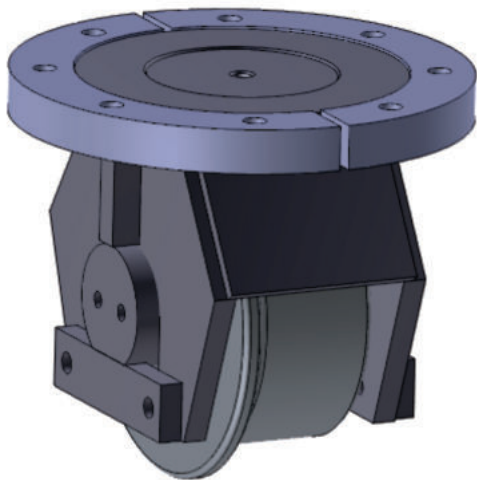
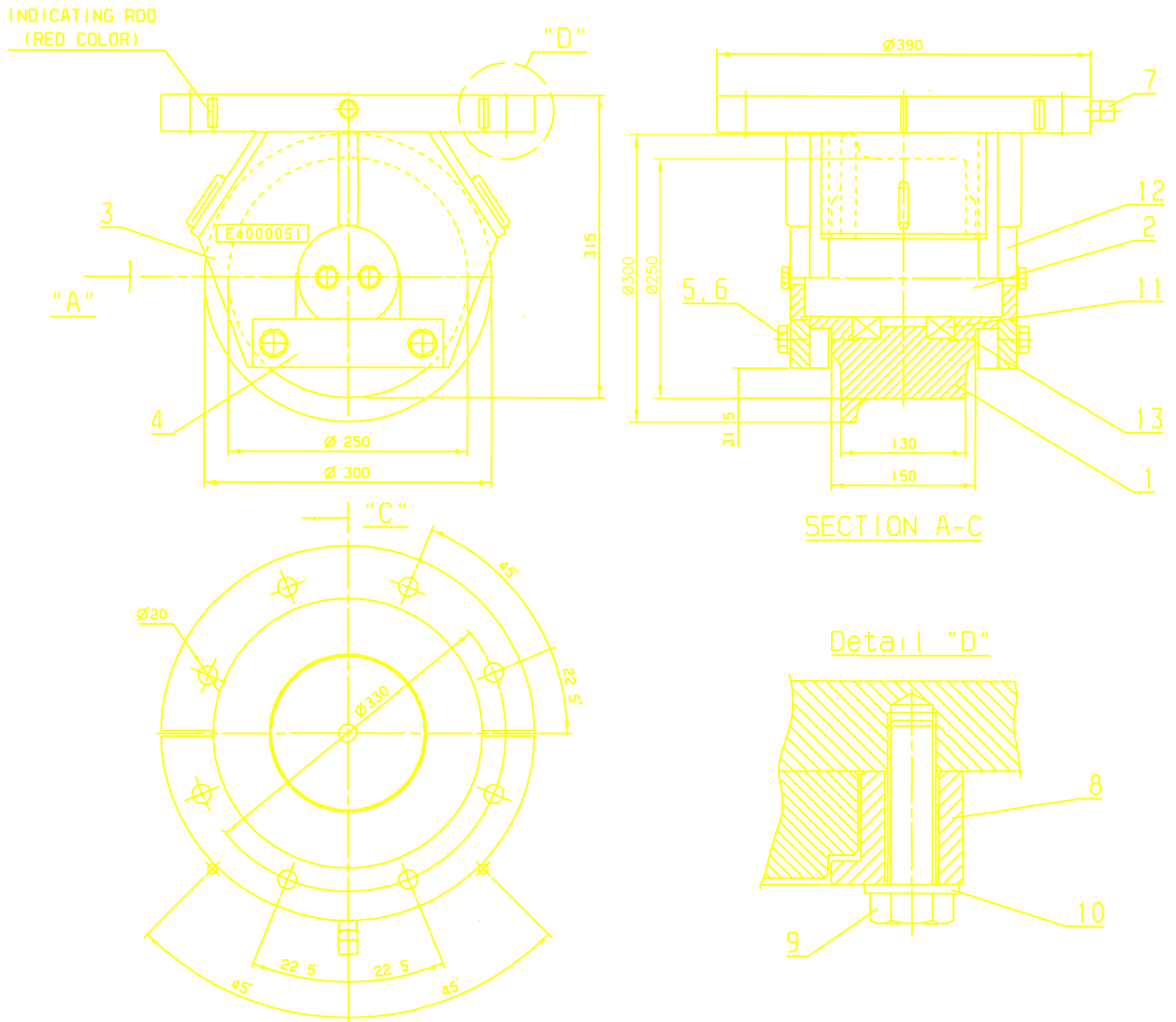


Wheel with Rail

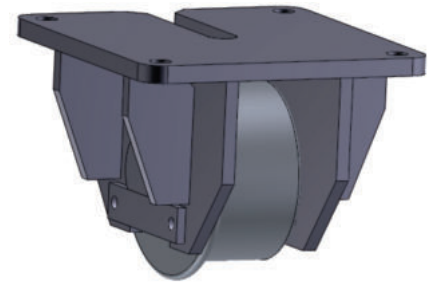
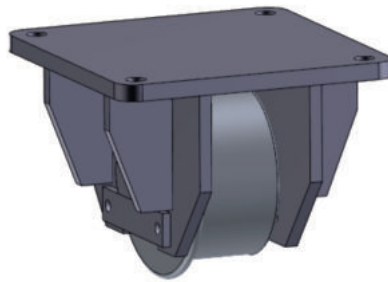


Flat Wheel

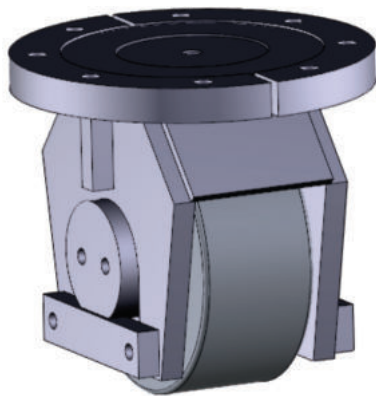
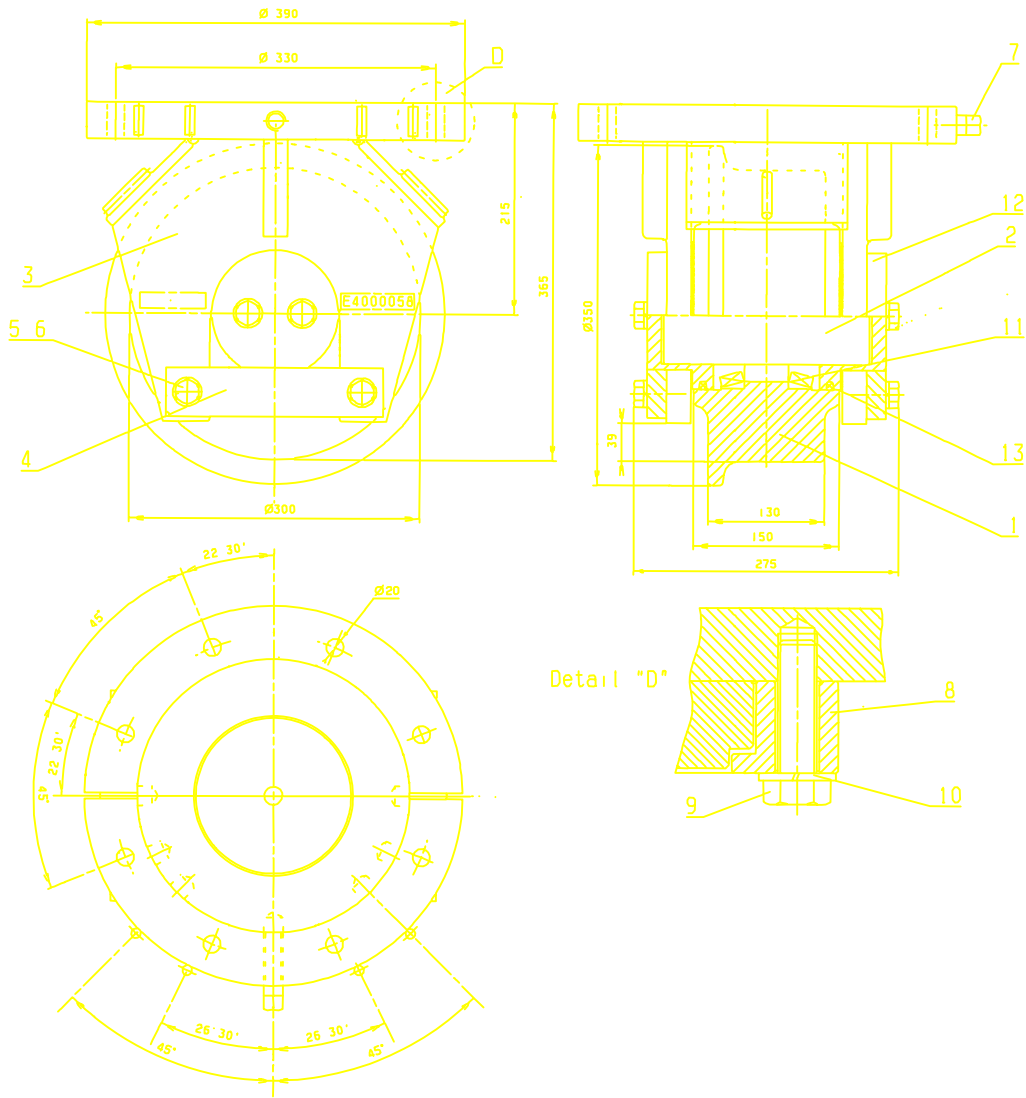




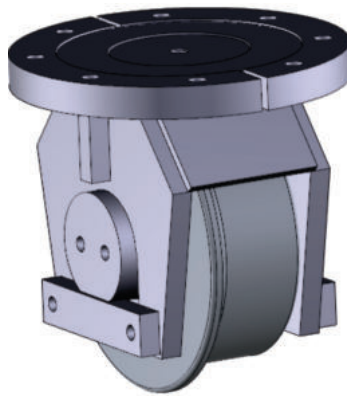
Loading Capacity : 25 TN
Total Weight : 110 KG



Same Capacity with Different Design

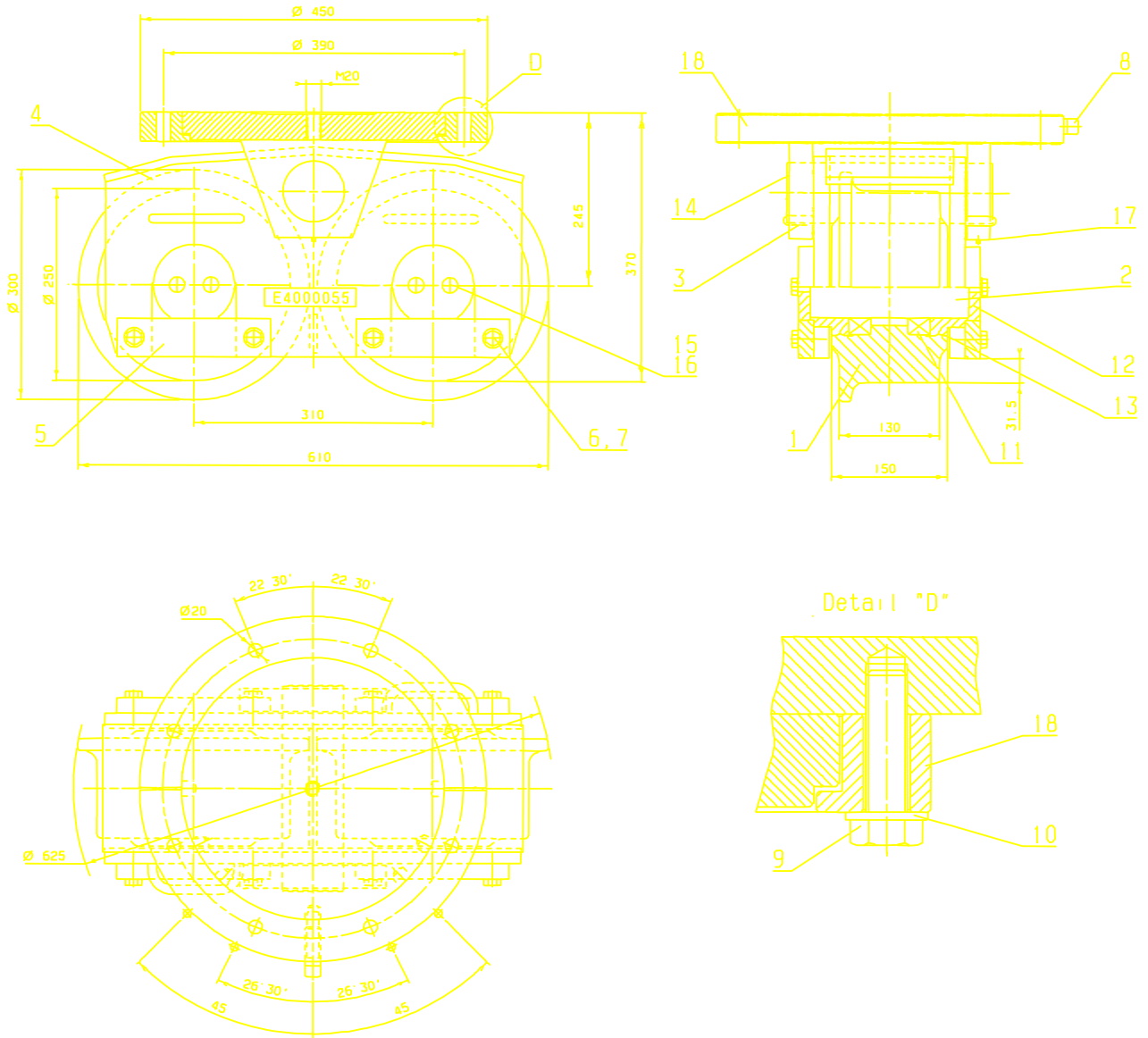


Flat Wheel



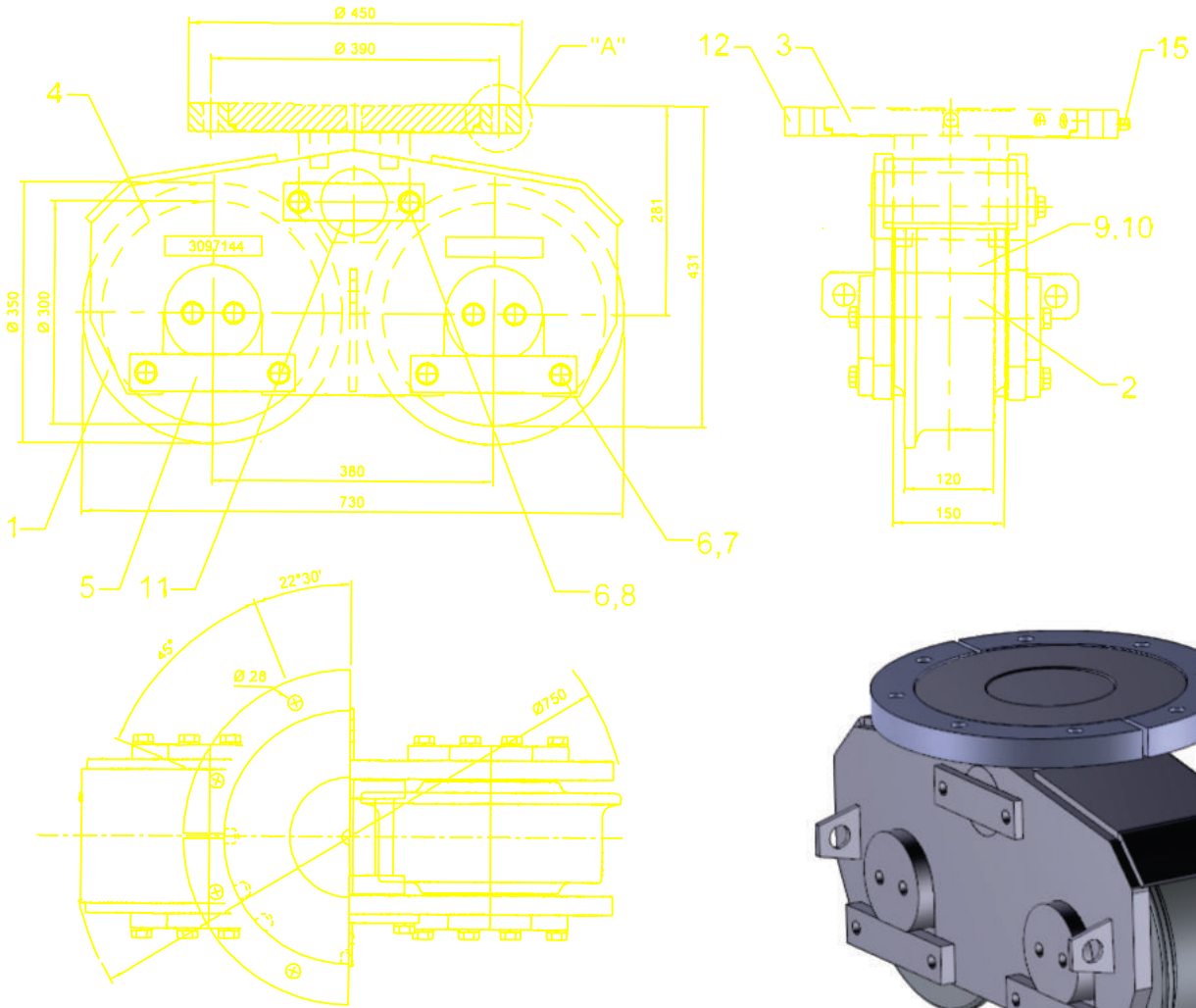
Rail Wheel

Loading Capacity : 32 TN
Total Weight : 163 KG

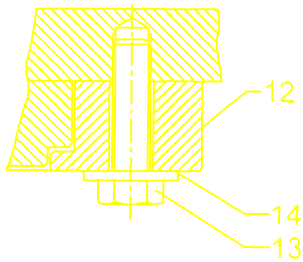


Loading Capacity : 50 TN
Total Weight : 235 KG



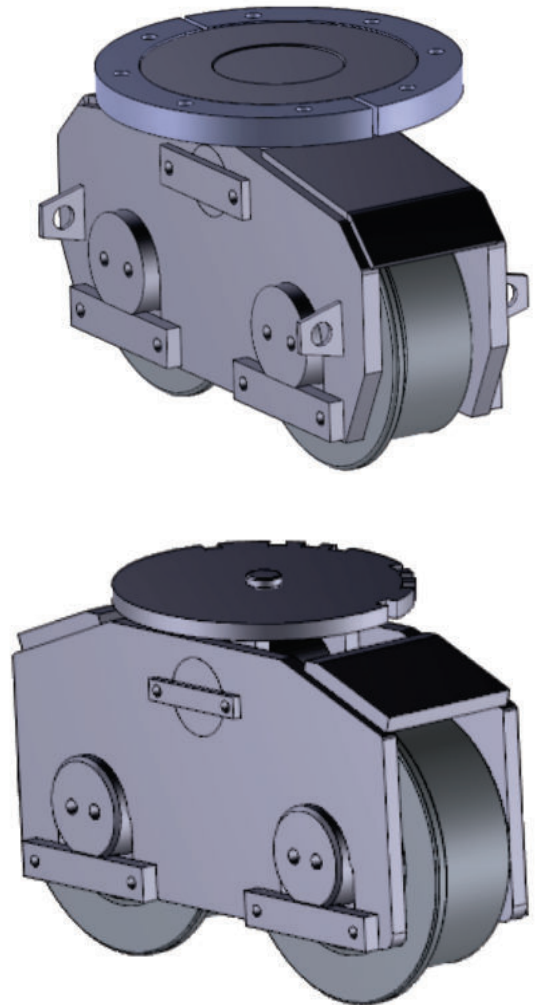


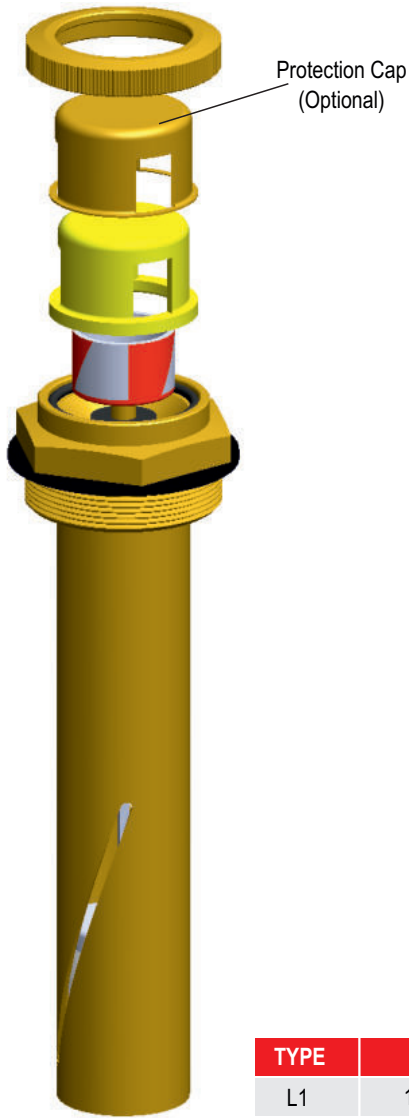
"A" DETAIL



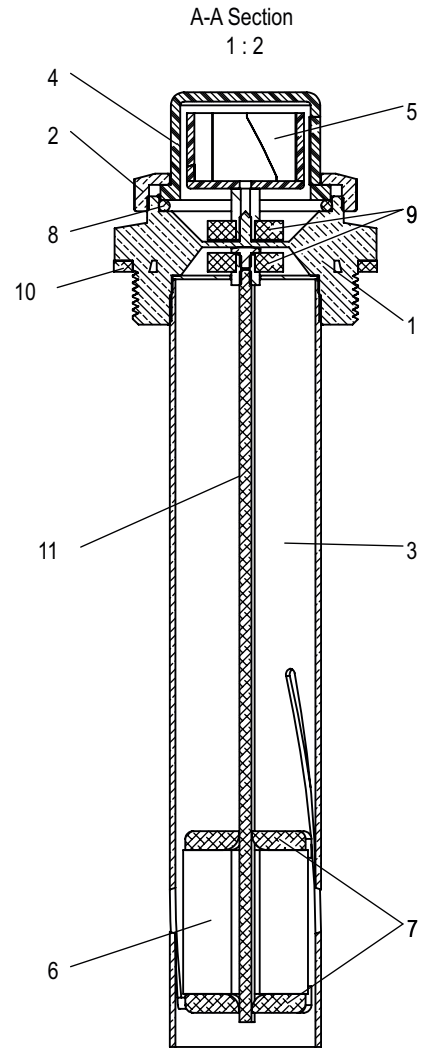
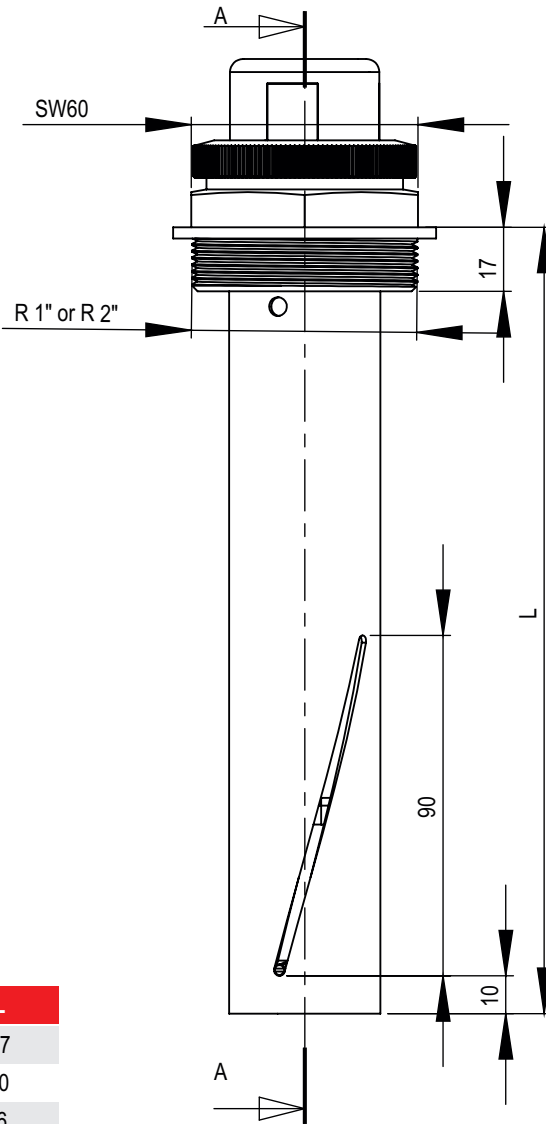
Different Top Flange
Acc. to Customer Design

Loading Capacity : 70 TN
Total Weight : 322 KG



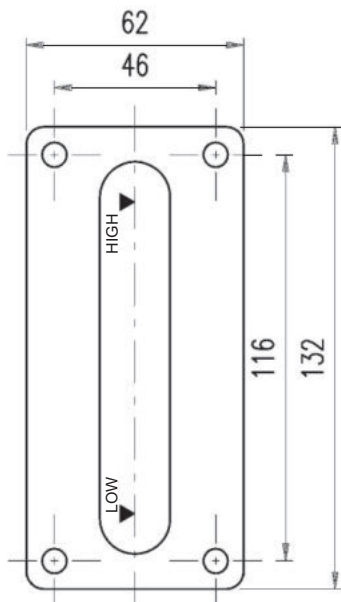


TYPE	L
L1	157
L2	210
L3	226



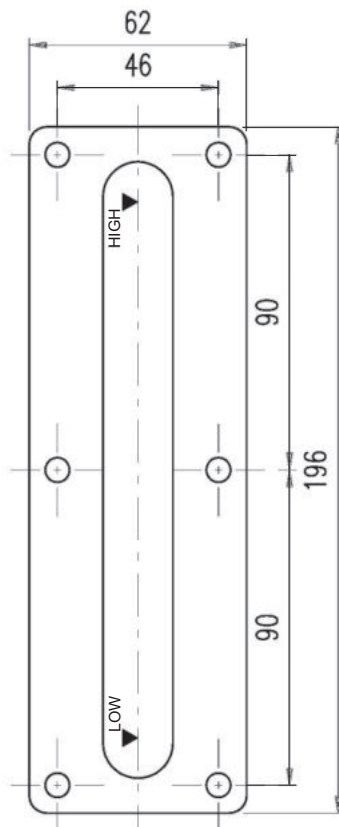
No.	Q'ty	Description	Explanation
1	1	Body	MS58
2	1	Press Nut	MS58
3	1	Tube	MS58
4	1	Cap	POLIKARBON
5	1	Scale	PA6
6	1	Float	ROHACELL
7	2	Float Handle	Aluminium
8	1	O-ring	NBR70
9	2	Magnet	---
10	1	Flat Gasket	NBR70
11	1	Float Lever	Aluminium

Small



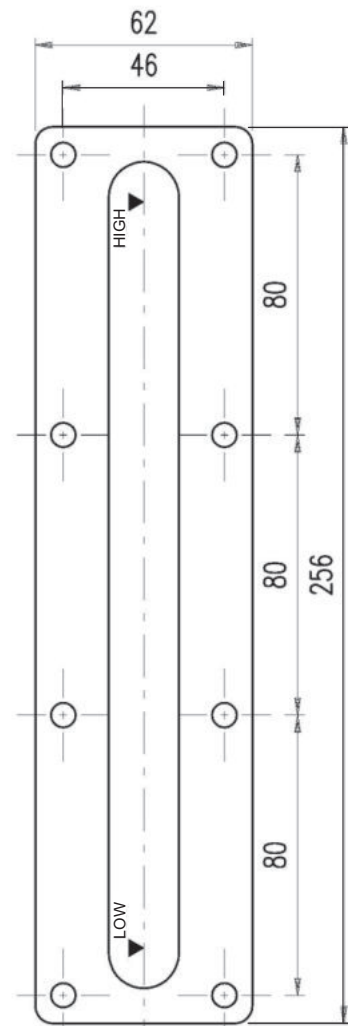
Dimensions in mm.

Medium

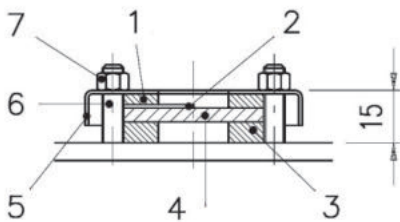


Dimensions in mm.

Large



Dimensions in mm.

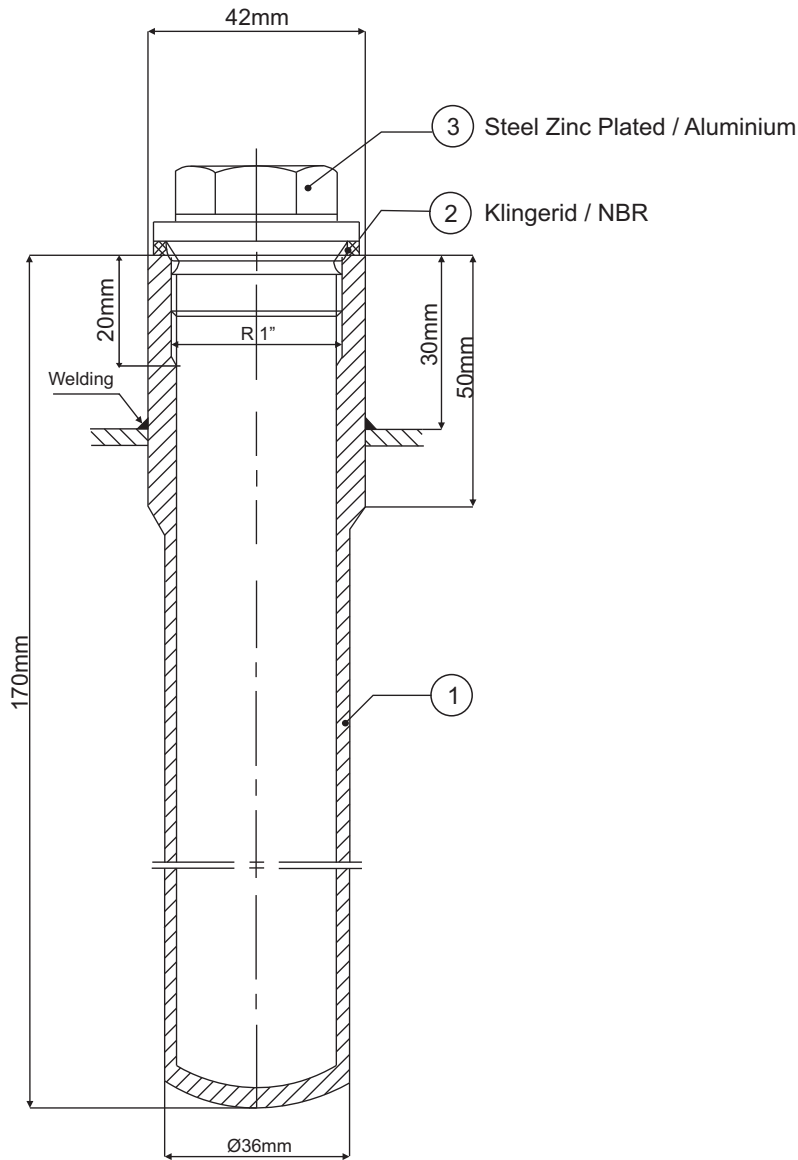


They give an optic indication of the oil level inside a transformer tank or inside a conservator. The steel frame must be bolted to the wall of an hermetic transformer or to the end of a conservator of a conventional transformer.

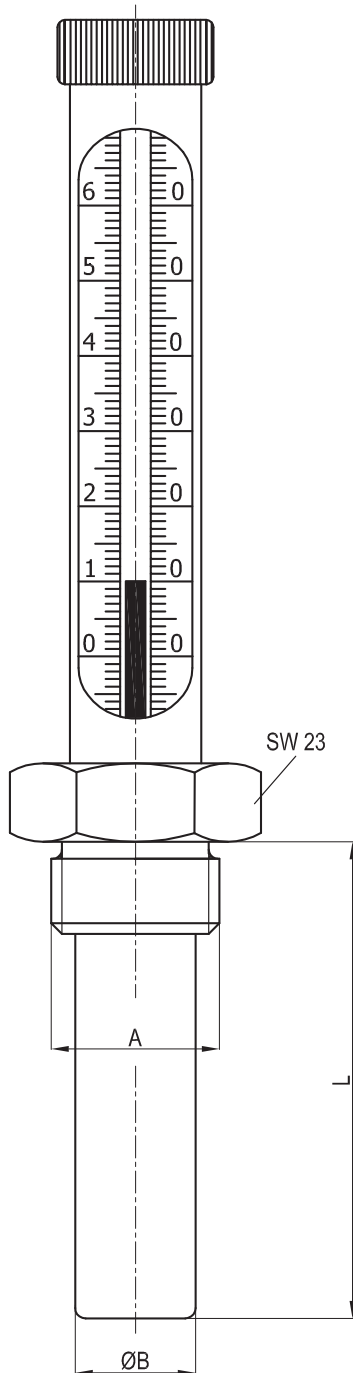
No:	Description	Material
1	Gasket outer	NBR
2	Sighting plate	Aluminium
3	Gasket inner	NBR
4	Window plex	Plexiglass
5	Window frame	Cr-Ni 1.5mm
6	Stud M6	(not supplied)
7	Nut M6	(not supplied)

Features

The thermometer pocket is designed to be welded in the top of oil immersed transformers. The pocket is manufactured out of one metal-piece according to DIN 42554. This secured absolute oil-tightness.



No:	Designation	Remarks	Material
1	Thermometer Pocket	DIN 42554	St 37-2
2	Gasket	39x29x3	Klingerit
3	Plug	R 1" DIN 910	Gal Zn

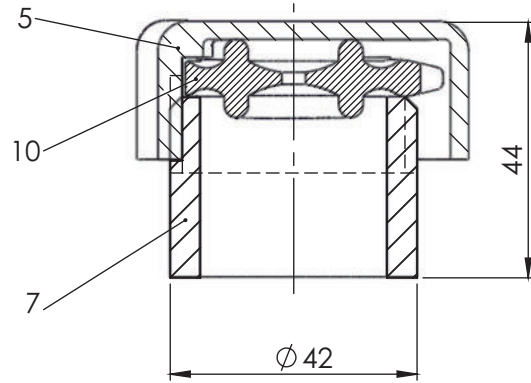
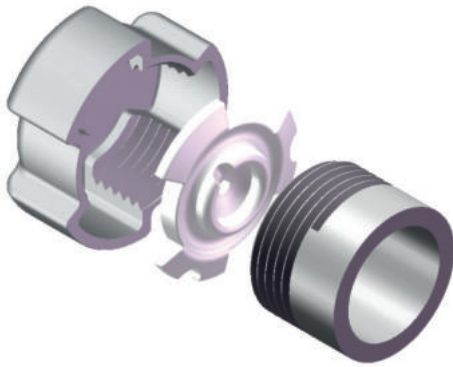


MACHINE - GLASS THERMOMETER

Working liquid	Alcohol
Working limit (C)	0-130°C
Immersion length (L)	63-100mm
Connection diameter (A)	R $\frac{1}{2}$ "
Bulb diameter (B)	dia.:12

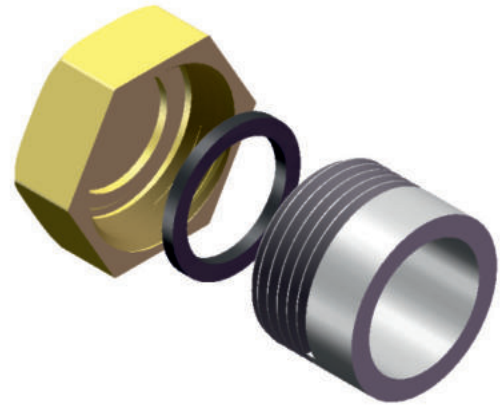
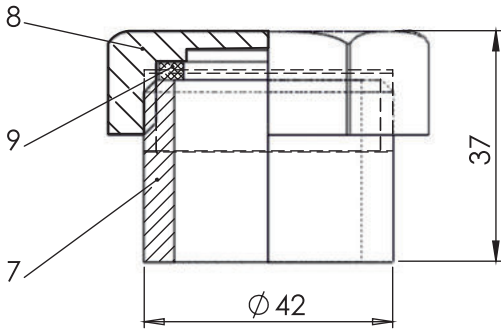


- These thermometers are for indoor use.

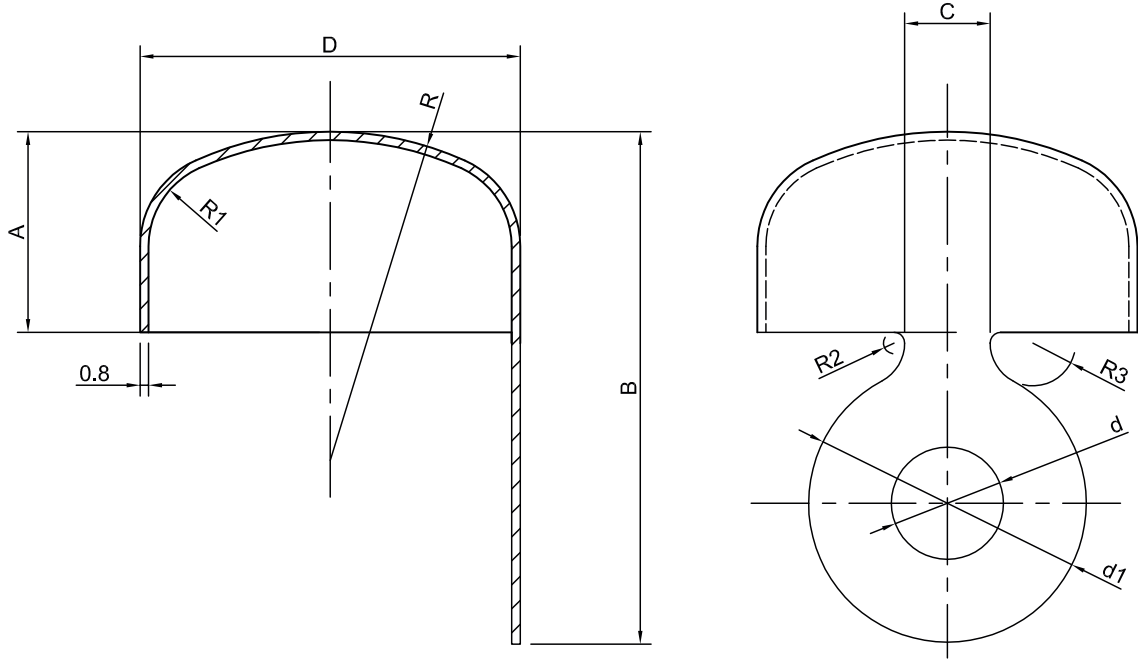


Item Nr.	Part Name	Part Number	Material
5	Cap	5 DIN 42 553	GD ZnA14
7	Socket	7 DIN 42 553	St 35
10	Labyrinth-disk	10 DIN 42 553	PA 6

FILLING NOZZLE DIN 42553 FORM D



Item Nr.	Part Name	Part Number	Material
7	Socket	7 DIN 42 553	St 35
8	Cap	8 DIN 42 553	GD ZnA14 Galvzn.
9	Gasket	15 DIN2691	Asbestos free



Material : Zinc Plated Steel / SS304

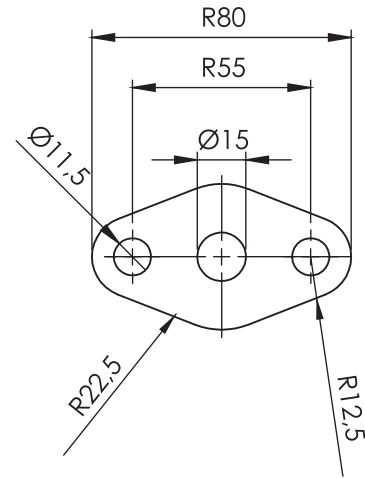
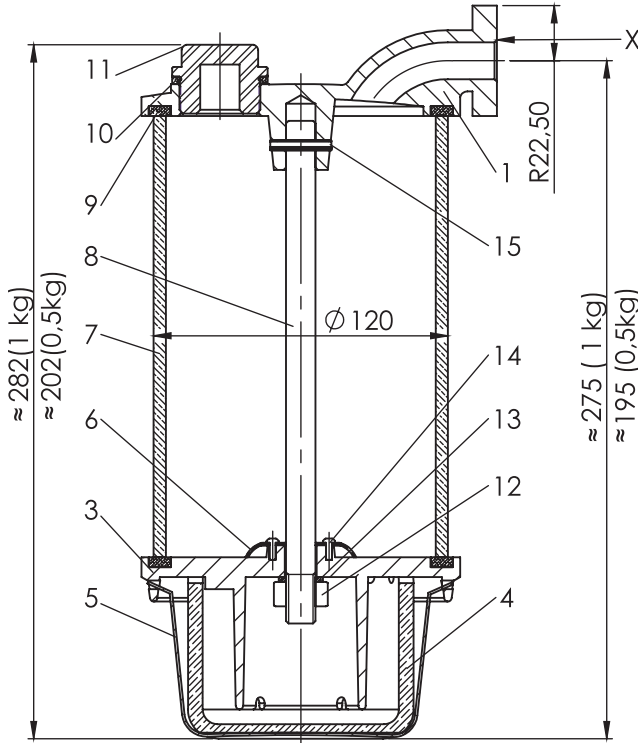


STANDARD DIMENSIONS

Part Number	Size	Material	D	A	d1	B	C	R	R1	R2	R3	D
MEV0066-01	M10	ST-37 A3K	34	18	26	48	30	30	8	2	2	34
-02	M12	ST-37 A3K	34	18	26	48	30	30	8	2	2	34
-03	M16	ST-37 A3K	34	18	28	48	30	30	8	2	2	34
-04	M20	ST-37 A3K	58	27	50	83	60	60	10	2	8	58
-05	M24	ST-37 A3K	58	27	50	83	60	60	12	2	8	58
-11	M8 / M10	ST-37 CR-Plated	30	15	22	40	6	30	3	1	4	30

Silicagel Capacity	Form	Application	Transformer Oil Capacity
0.5 kg.	A	250 kVA	1800 kg.
1.0 kg.	A	250-5000 kVA	3600 kg.

The top and the bottom sections : Casted aluminium
 Paint : RAL 7033 electrostatic powder
 Shafts : Nickel plated steel
 Container : Glass oil bowl polycarbonate
 Bowl holder : CrNi



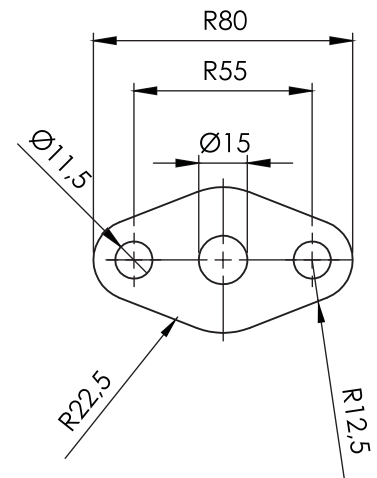
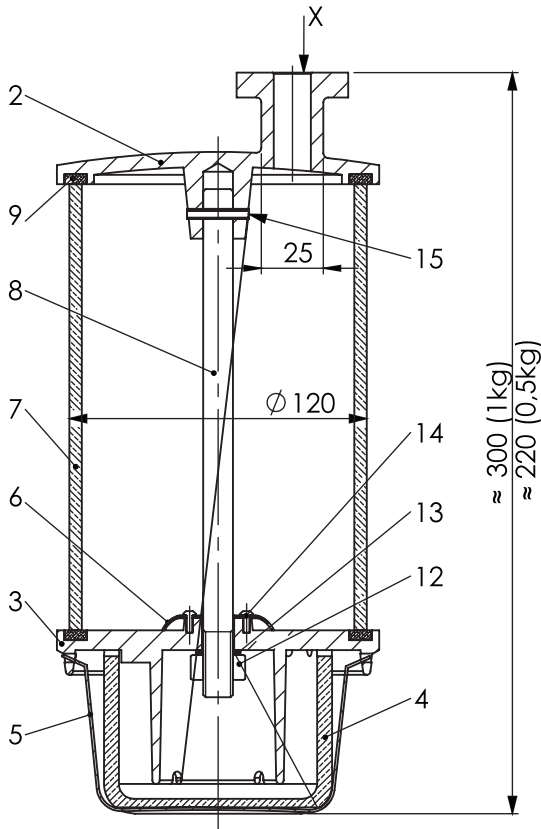
Pos. No.	Qty.	Description	Material
1	1	Top section	GD - AL lack RAL 7033
3	1	Bottom section	GD - AL lack RAL 7033
4	1	Oil bowl	Plexiges, klar
5	1	Holder	X 12 CrNi 177
6	1	Sieve	AL 1.5 Ø
7	1	Glass cylinder	Glass 120x5x100/180
8	1	Bridging plug	St 33 galv. zn M12x125/250
9	2	Gasket	NBR 70
10	1	Gasket	Asbestos free
11	1	Plug	GD - AL lack RAL 7033
12	1	Nut	M12 DIN 934 - 4D
13	1	Spring washer	B12 DIN 127
14	2	Rivet	2,5x4 Alu DIN 1476
15	1	Pin	4x24 DIN 1471



Mh Form A 0.5kg

Silicagel Capacity	Form	Application	Transformer Oil Capacity
0.5 kg.	B	250 kVA	1800 kg.
1.0 kg.	B	250-5000 kVA	3600 kg.

The top and the bottom sections : Casted aluminium
 Paint : RAL 7033 electrostatic powder
 Shafts : Nickel plated steel
 Container : Glass oil bowl polycarbonate
 Bowl holder : CrNi



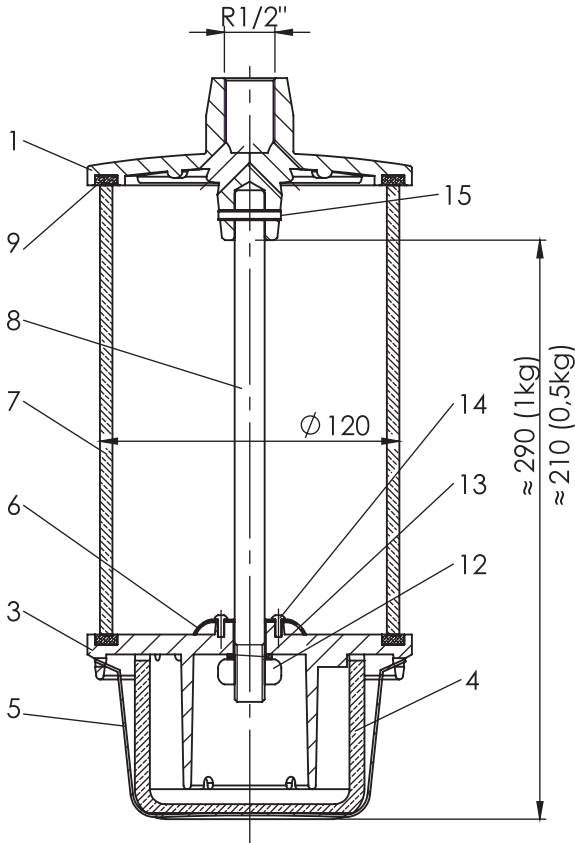
Pos. No.	Qty.	Description	Material
2	1	Top section	GD - AL lack RAL 7033
3	1	Bottom section	GD - AL lack RAL 7033
4	1	Oil bowl	Plexiges, klar
5	1	Holder	X 12 CrNi 177
6	1	Sieve	AL 1.5 Ø
7	1	Glass cylinder	Glass 120x5x100/180
8	1	Bridging plug	St 33 galv. zn M12x125/250
9	2	Gasket	NBR 70
12	1	Nut	M12 DIN 934 - 4D Galv. Zn
13	1	Spring washer	B12 DIN 127 - Galv. Zn
14	2	Rivet	2,5x4 Alu DIN 1476
15	1	Pin	4x24 DIN 1471



Mh Form B 1.0kg

Silicagel Capacity	Form	R diameter			Application	Transformer Oil Capacity
0.5 kg.	C	R 1/2"	R 3/4"	R 1"	250 kVA	1800 kg.
1.0 kg.	C	R 1/2"	R 3/4"	R 1"	250-5000 kVA	3600 kg.

The top and the bottom sections : Casted aluminium
Paint : RAL 7033 electrostatic powder
Shafts : Nickel plated steel
Container : Glass oil bowl polycarbonate
Bowl holder : CrNi

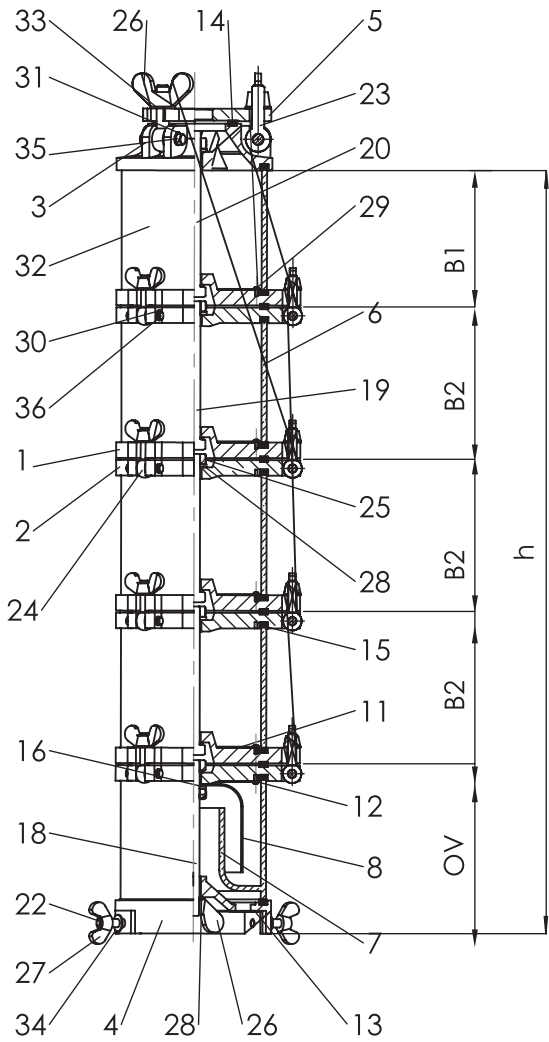


MH Form C 1.0 kg.

MH Form C 0.5 kg.

Pos. No.	Qty.	Description	Material
1	1	Top section	GD - AL lack RAL 7033
3	1	Bottom section	GD - AL lack RAL 7033
4	1	Oil bowl	Plexiges, klar
5	1	Holder	X 12 CrNi 177
6	1	Sieve	AL 1.5 Ø
7	1	Glass cylinder	Glass 120x5x100/180
8	1	Bridging plug	St 33 galv. zn M12x125/250
9	2	Gasket	NBR 70
12	1	Nut	M12 DIN 934 - 4D Galv. Zn
13	1	Spring washer	B12 DIN 127 - Galv. Zn
14	2	Rivet	2,3x5 DIN1476
15	1	Pin	4x24 DIN 1471





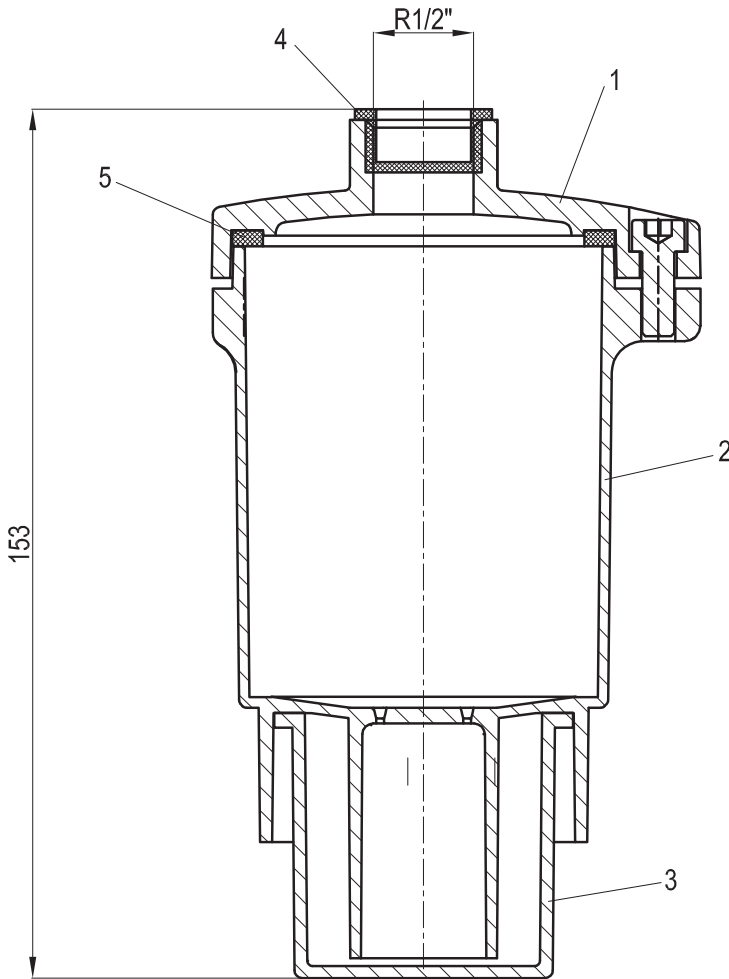
MH L3

MH L2

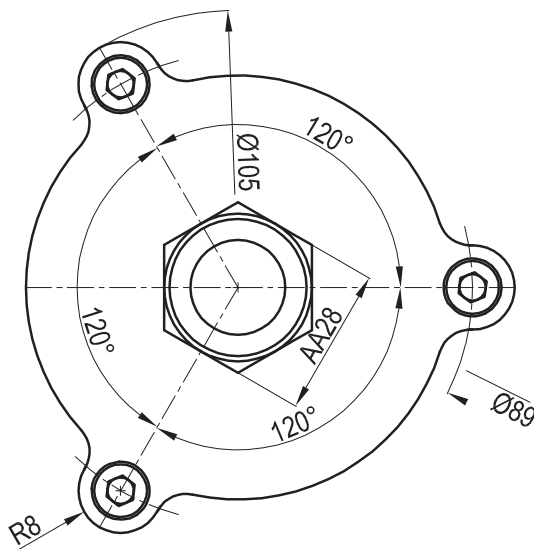
Pos. No.	Grouping			Description	Remarks
	B1	B2	OV		
1	1	1	-	Partition plate	GG 20 gal. zn
2	-	1	1	Partition plate	GG 20 gal. zn
3	1	-	-	Top section	GG 20 gal. zn
4	-	-	1	Bottom section	GG 20 gal. zn
5	-	-	-	Flange	
6	1	1	1	Glass cylinder	Glass
7	-	-	1	Oil container	Glass
8	-	-	1	Dome	nrSt
11	1	-	-	Perforated plate	A1
12	-	-	1	Perforated plate	A1
13	-	-	1	Perforated plate	A1
14	1	-	-	Gasket	NBR 70
15	2	3	3	Gasket	NBR 70
16	-	-	2	Gasket	M1-250
18	-	-	1	Bolt	M12x150 - A2. 70
19	-	1	-	Bolt	M12x130 - A2. 70
20	1	-	-	Bolt	M12x140 - A2. 70
22	-	-	2	Stud bolt	M8x30 - A2. 70
23	3	-	-	Eyebolt	M12x55 A2. 70
24	-	3	3	Eyebolt	M8x40 A2. 70
25	1	1	2	Hexagon nut	M12 - A2. 70
26	3	-	1	Wing nut	M12-C - A2. 70
27	-	3	5	Wing nut	M8-C - A2. 70
28	1	1	2	Spring washer	12 CrN. - 177
29	3	3	7	Pin	2,5x5 Alu
30	-	6	6	Circlips	8x0,8 - nrSt
31	6	-	-	Circlips	10x1 - nrSt
32	*	*	-	Silicagel	*-1,200 gr.
33	3	-	-	Washer	B13 - nrSt
34	-	3	5	Washer	B8,4 - nrSt
35	3	-	-	Stud	1.4305 nrSt
36	-	3	3	Stud	1.4305 nrSt

Types of moisture holders	L1	L2	L3	L4
Silicagel amount (kg.)	1,2	2,4	3,6	4,8
Height (h) (± 1)	342	489	636	783
Weight of moisture holders without silicagel (no filling) (kg.)	9,2			
Assembly groups				
B1	1	1	1	1
B2	-	1	2	3
OV	1	1	1	1

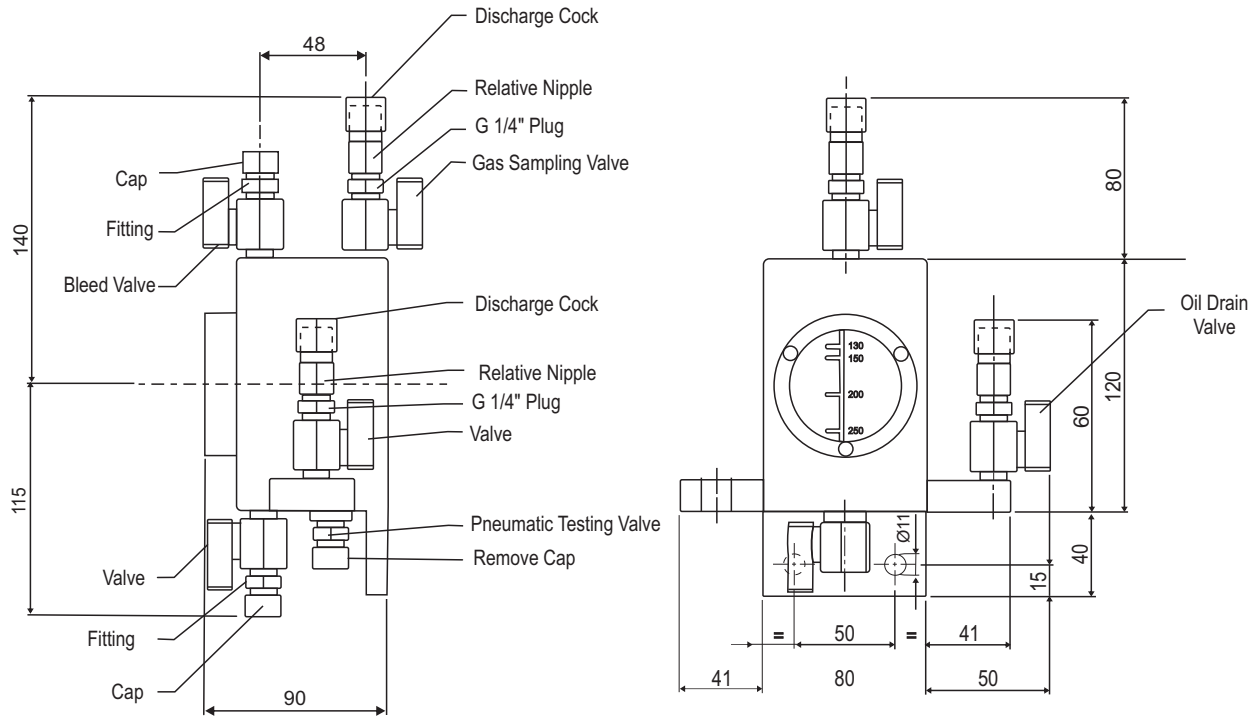
The dehydrating breather removes practically all moisture from the air which flows through it into the conservator when the transformer is cooling down. This has the effect of largely preventing any reduction of the dielectric strength of the insulation due to moisture ambient air and any formation of condensation in the conservator. Thus the dehydrating breather increases the operational integrity of the transformer.



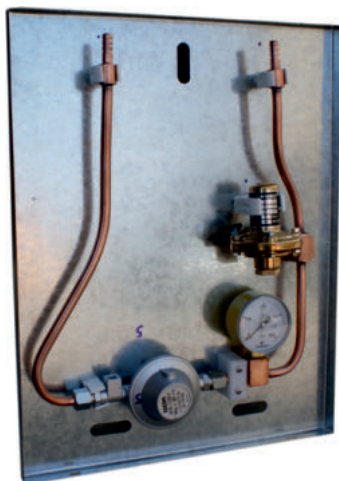
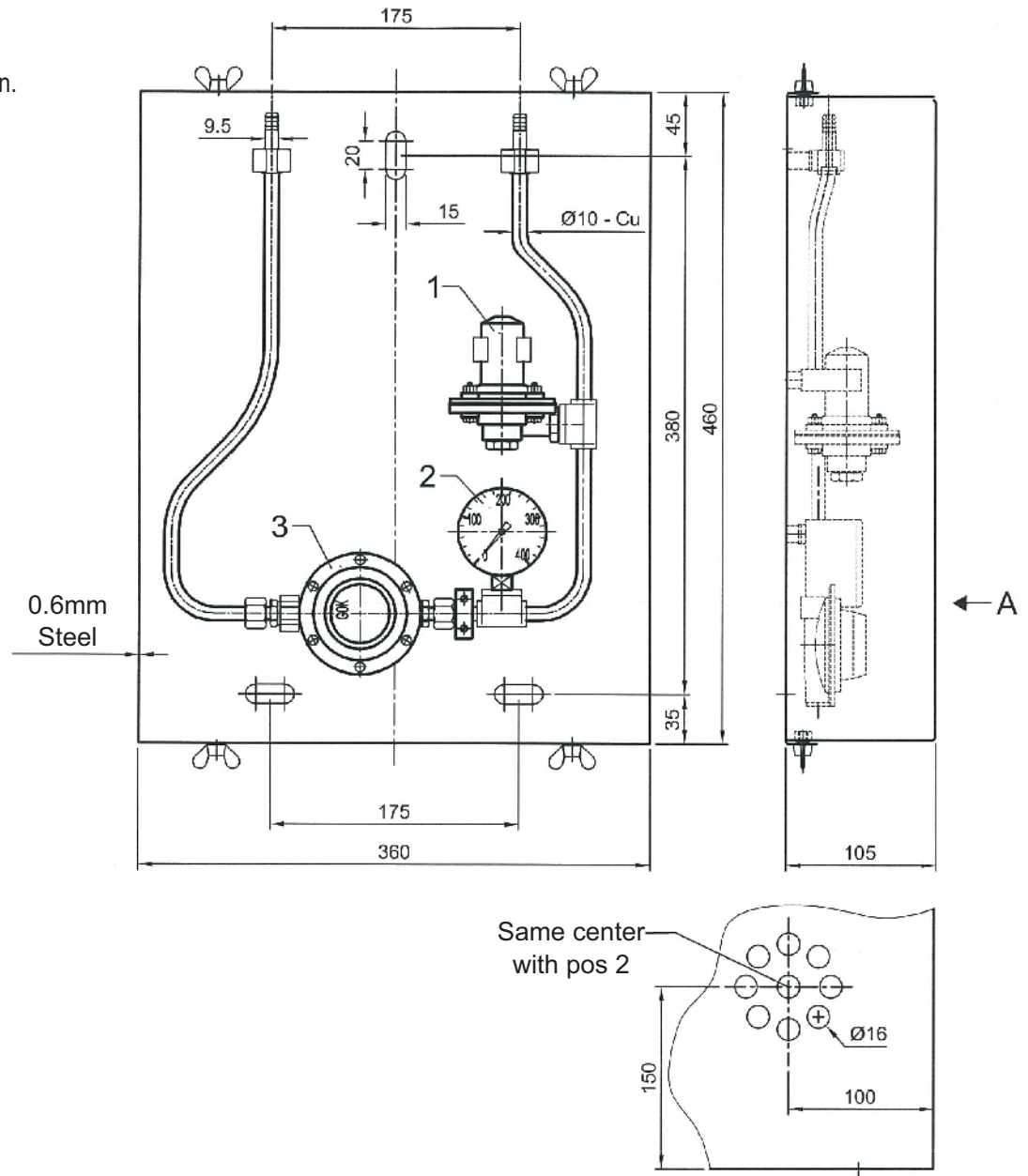
Item No.	Qty.	Description	Material
1	1	Top section	Aluminium, Powder painted
2	1	Cylinder	Polycarbonate
3	1	Oil Bowl	Polycarbonate
4	1	Plug	Polyethylene
5	1	Gasket	Nitrile rubber



Aluminium alloy casting body with tempered glass inspection window



Air pressure Regulator for transportation of transformers without oil with Dry-Air or Nitrogen.

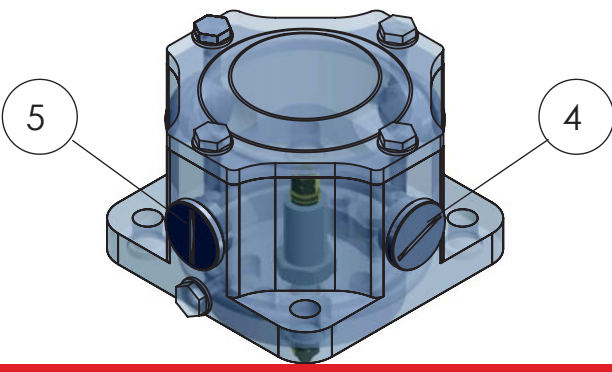
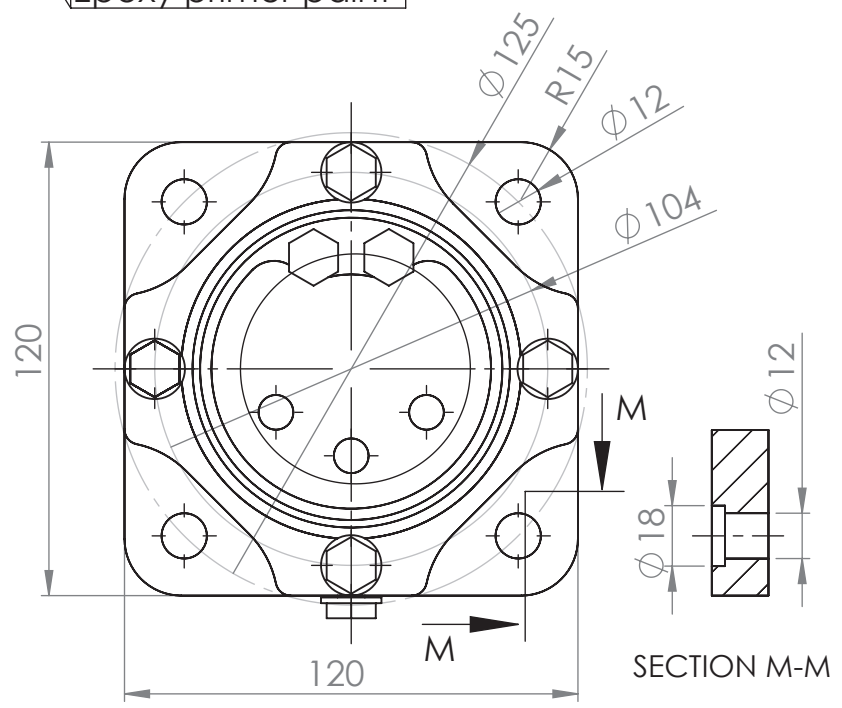
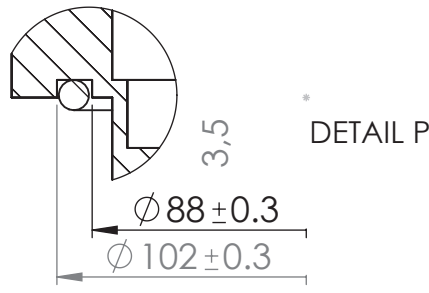
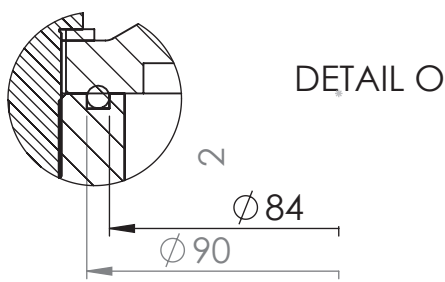
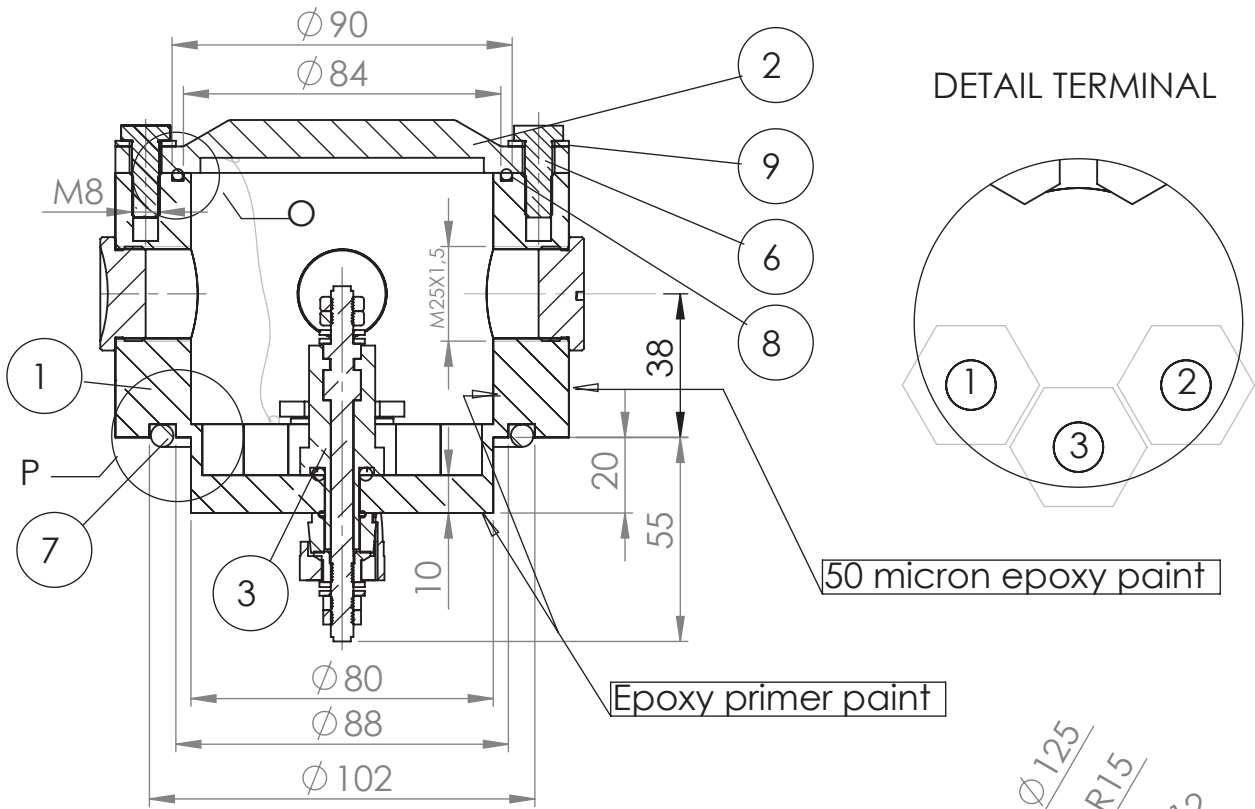


Pos 1 = Safety Valve 0.35 bar
5 N m³/h

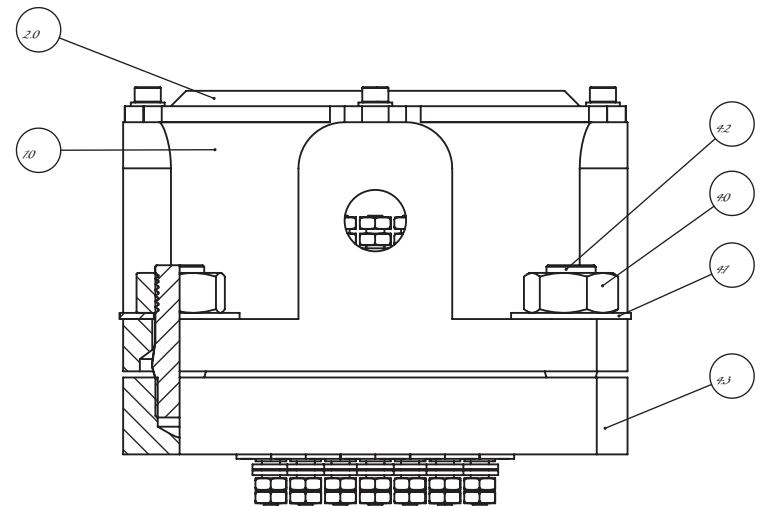
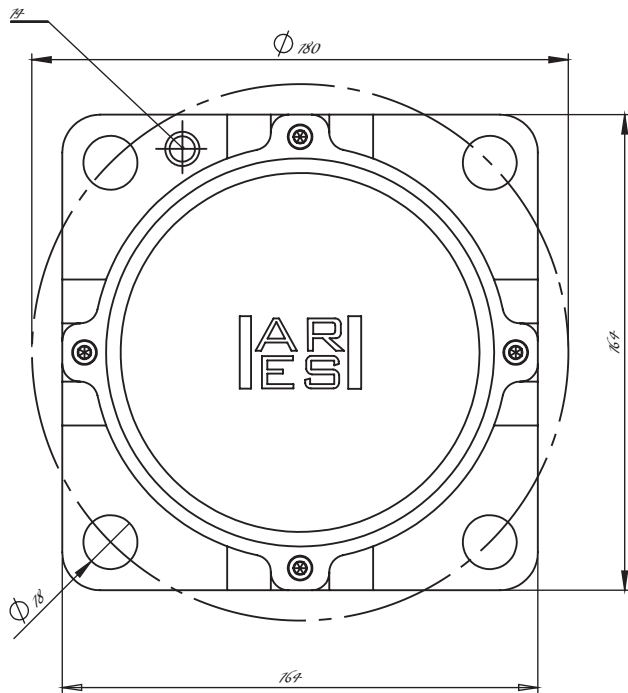
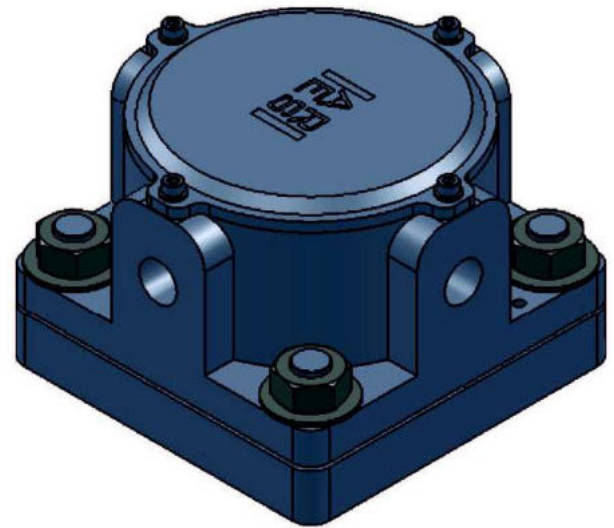
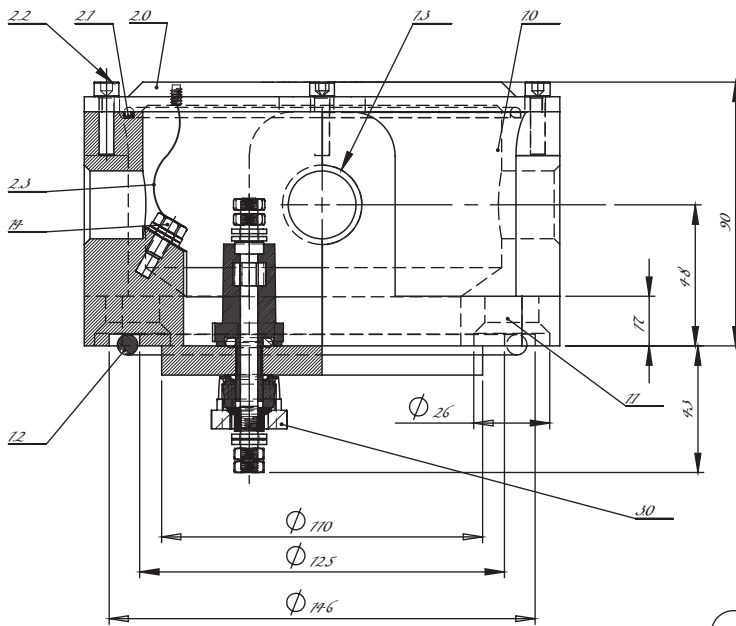
Pos 2 = Manometer
0 - 400 bar

Pos 3 = Pressure Regulator
PN/6 20L/h

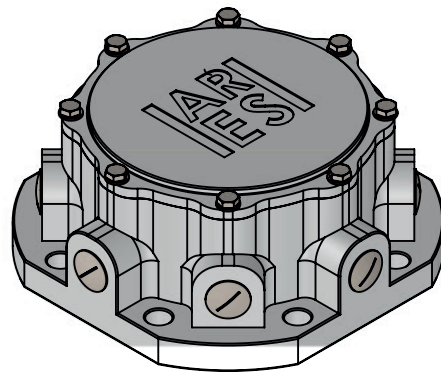
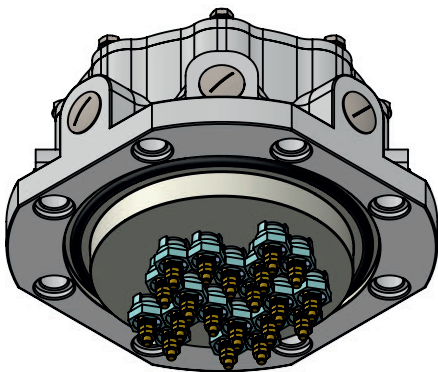
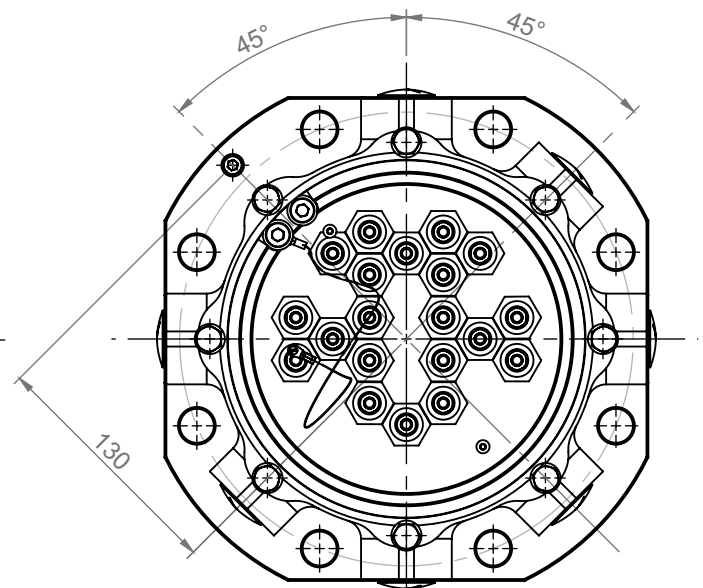
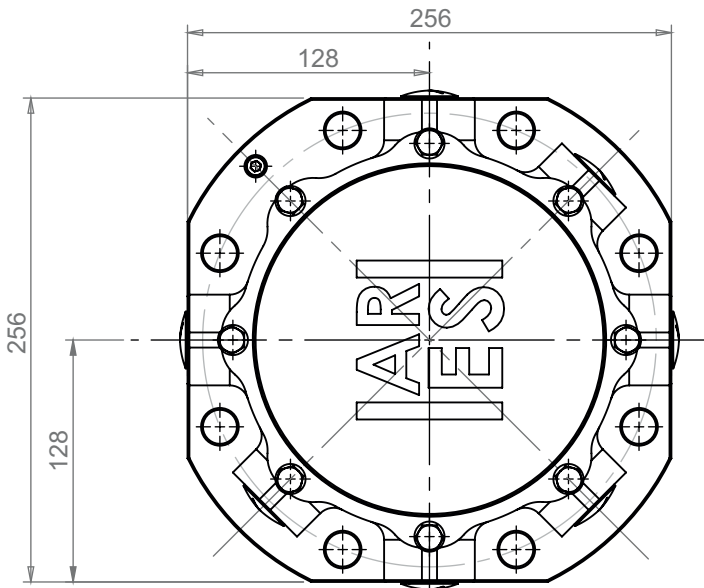
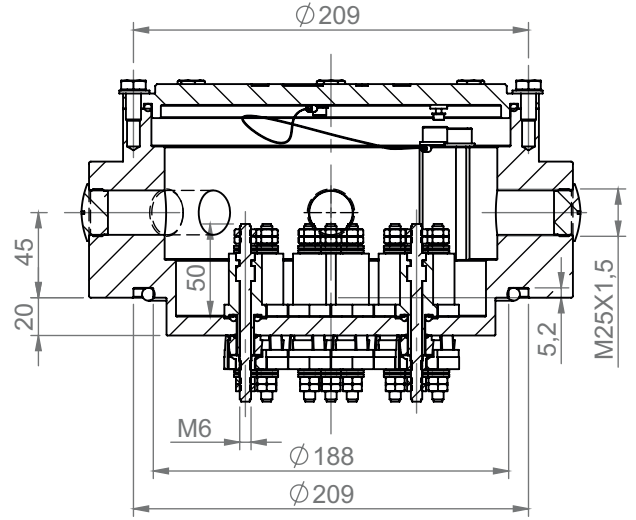
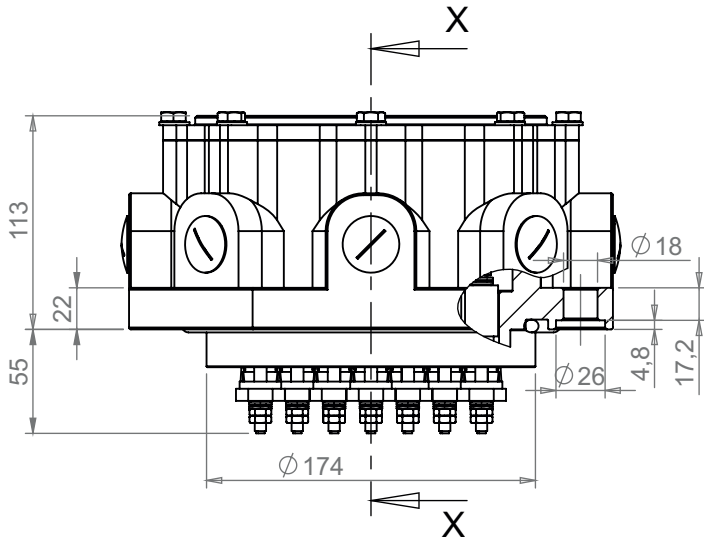
Unit Weight: 4.90kg

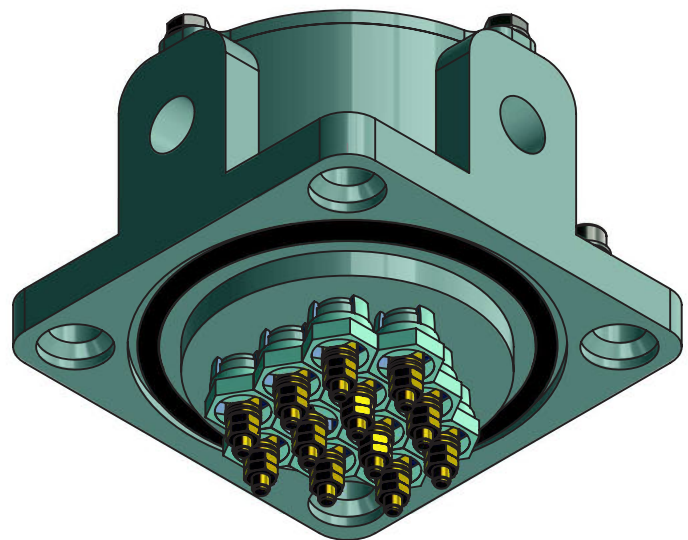
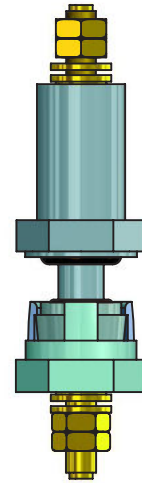
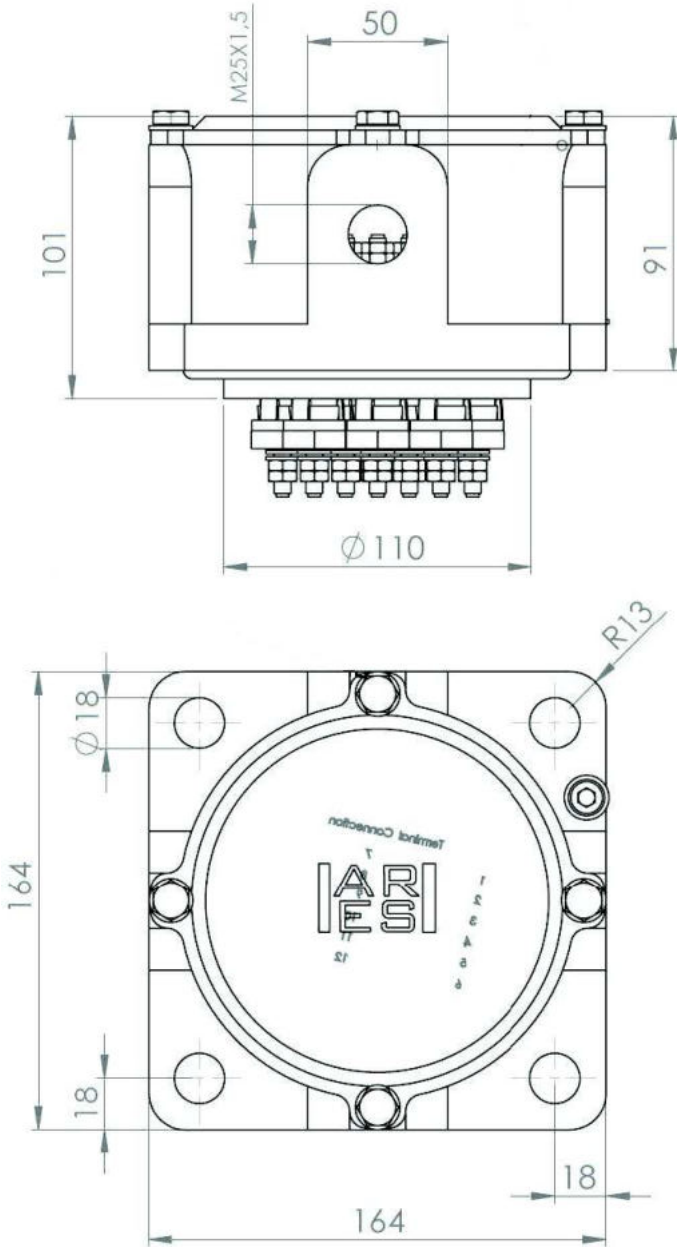


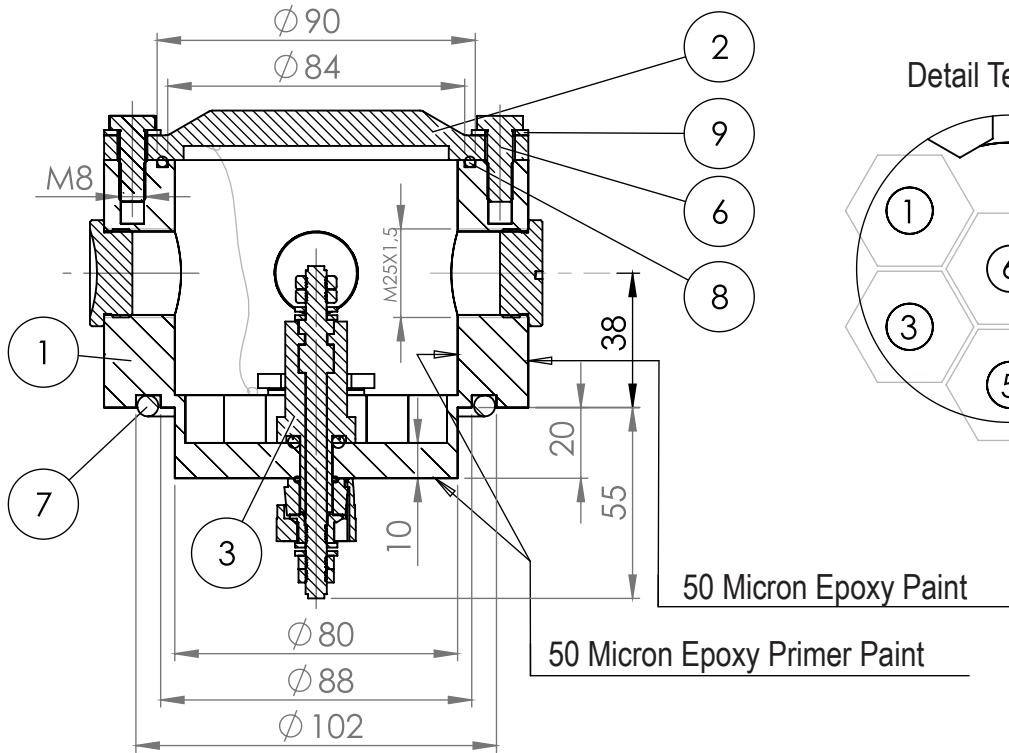
ITEM NO	DESCRIPTION	MATERIAL	QTY
1	Terminal Box	Aluminium	1
2	Terminal Box Cover	Aluminium	1
3	Terminals	PA6,6+Glass Fibre %30+Brass M6 Stem	3
4	Plug M25X1,5	PA6,6	2
5	Plug M25X1,5 With O-ring	Nickel Plated Brass	2
6	Cover Screws	A2-70	7
7	Ø88x5,80 O-ring	NBR	1
8	Ø84x3,20 O-ring	NBR	1
9	M8 Washer	A2-70	4



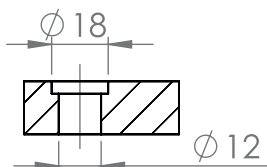
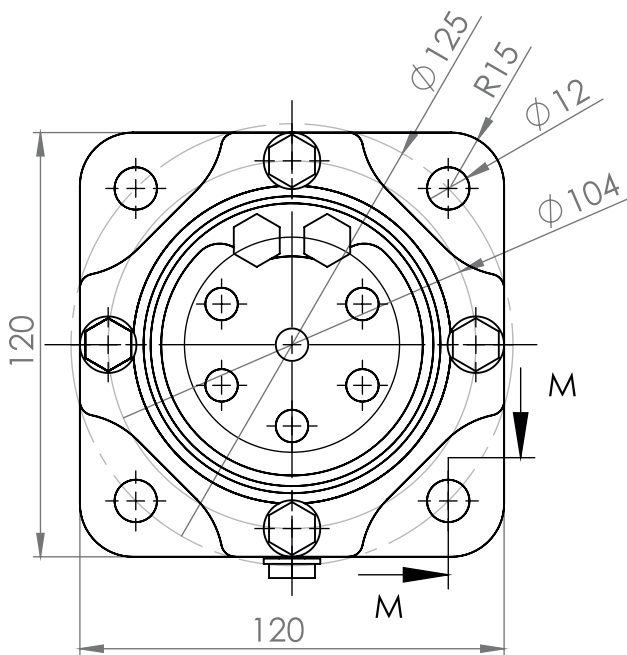
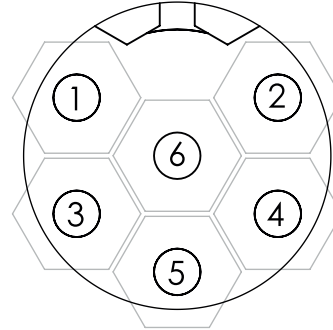
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1.0	qÉéááá~ä=Áçñ	^äiááááíä	1
1.1	jçíáíááÖ=Nä~äÖÉ		
1.2	IJ éááÖ=NOSIQñSI/Vk_o		1
1.3	`~ÄÄÉ=báíéó	N?LmdOVL-QM	
1.4	b~éiÜ=pÁéÉíë	^OJTM	2
2.0	qÉéááá~ä=Áçñ=ÁçíÉ:é	^äiááááíä	1
2.1	`çíÉé=IJeááÖ	k_o	1
2.2	`çíÉé=pÁéÉíë	^OJTM	4
2.3	`çíÉé=ÜçäÇááÖ=éíéááÖöaçä		1
3.0	qÉéááá~äë	kóaçä=H=dä~ëë=NäÄÉ=BPW2	
4.0	jNSJeÉñ=äii	^OJTM	4
4.1	jNS=J~t~éÜÉê	^OJTM	4
4.2	jNSñOR=afkVPU	péPMQ	4
4.3	cä~äÖÉ=Eaçí=éíéááÉçPPrgo		1





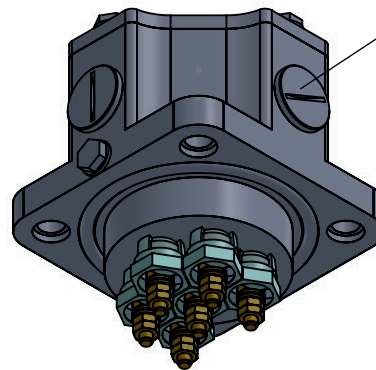


Detail Terminals

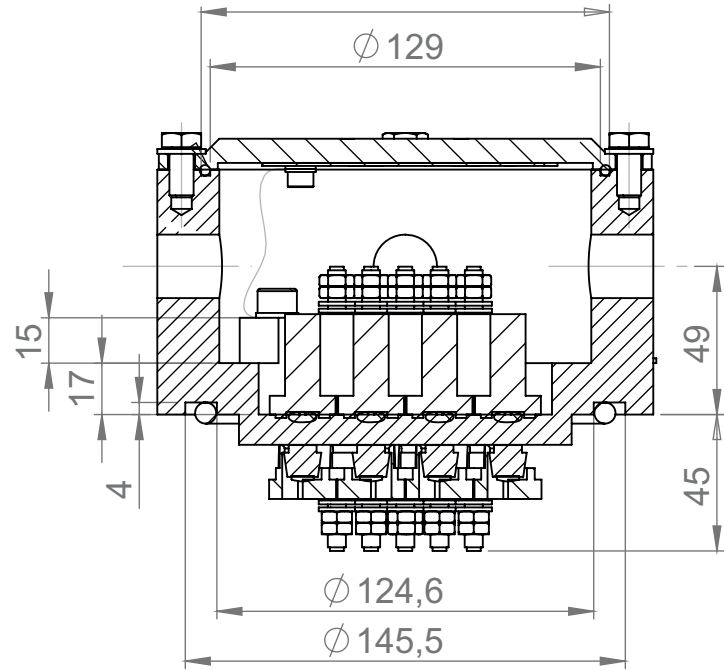
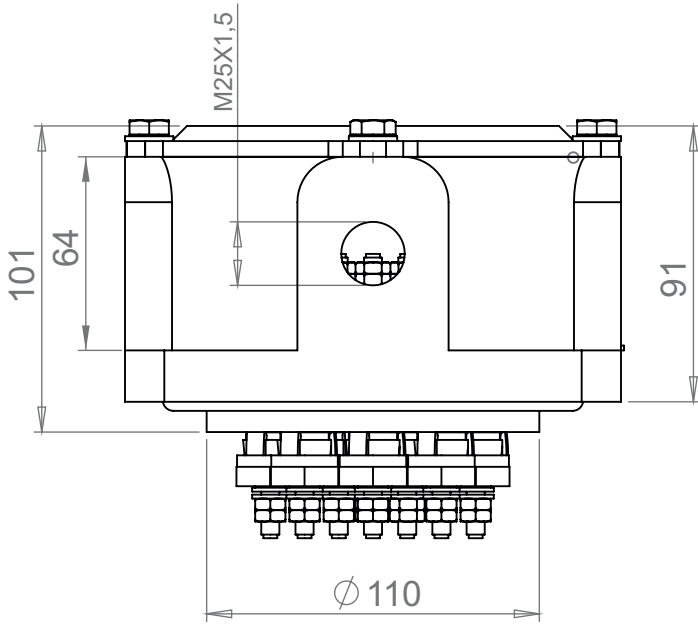


Section M-M

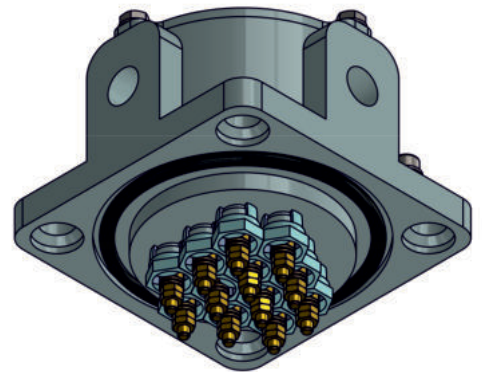
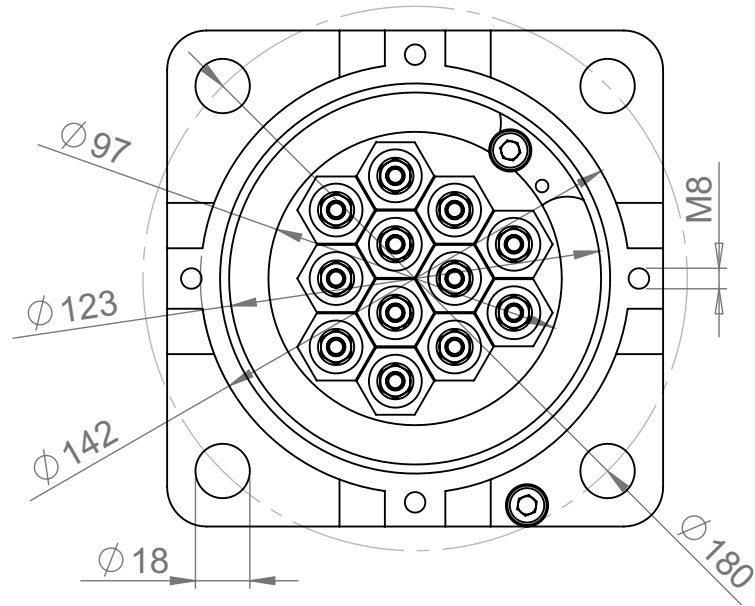
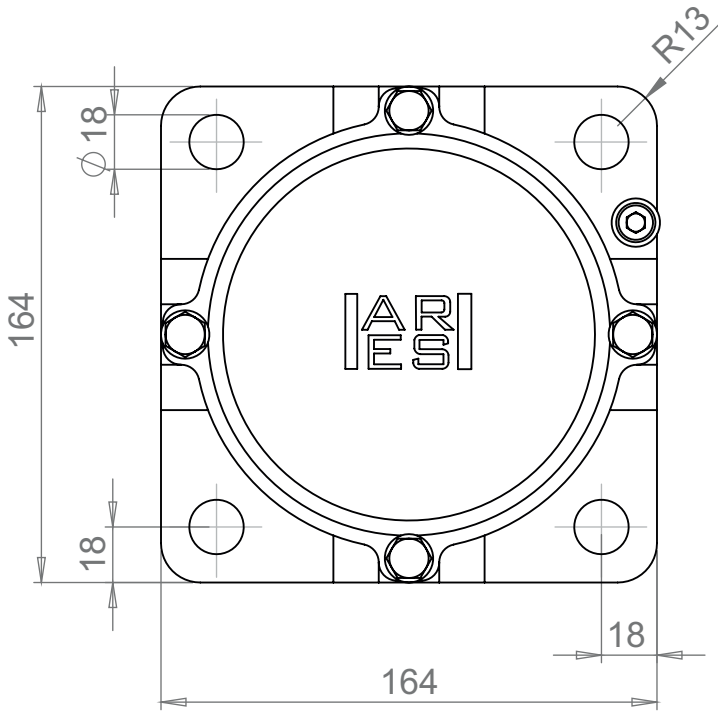
Plug and Glands Optional

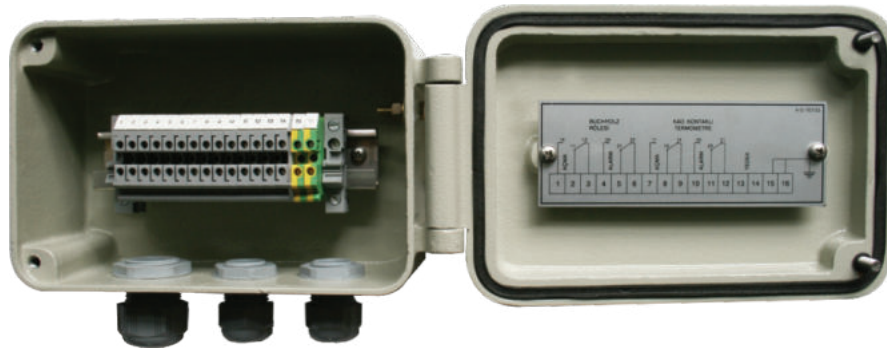
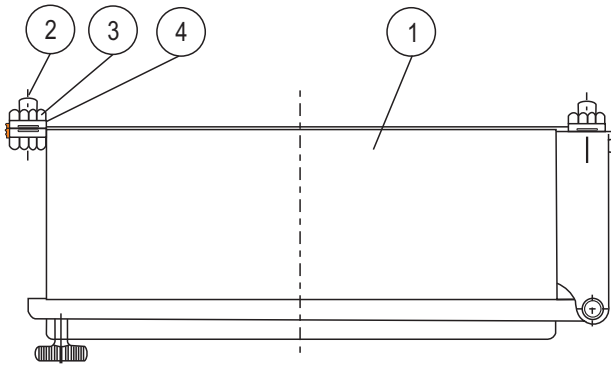
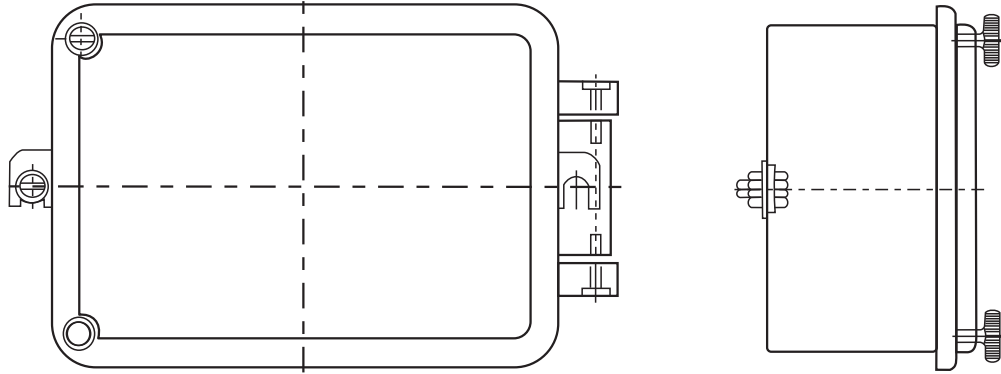


NO	DESCRIPTION	MATERIAL	QTY
1	Terminal Box	Aluminium	1
2	Terminal Box Cover	Aluminium	1
3	Terminals	PA6,6+Glass Fibre %30+Brass M6 Stem	6
4	Plug M25x1,5	PA6,6	2
5	Plug M25x1,5 With O-ring	Nickel Plated Brass	2
6	Cover Screws	A2-70	7
7	Ø 88x5,80 O-ring	NBR	1
8	Ø 84x3,20 O-ring	NBR	1
9	M8 Washer	A2-70	4



C-C (1 : 2.5)

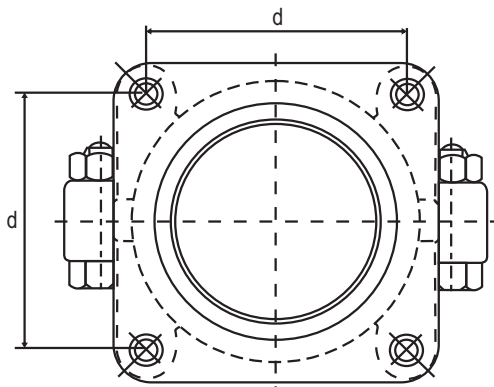
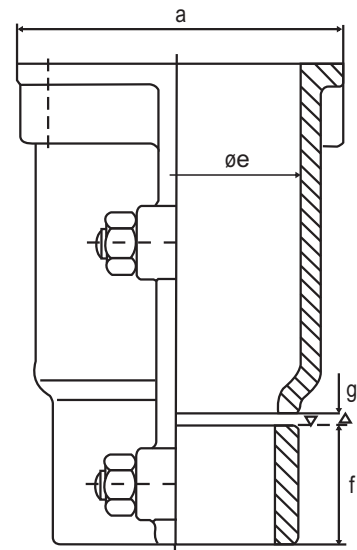
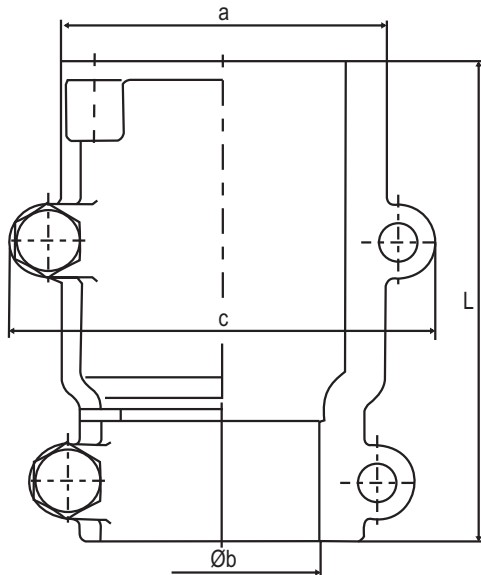


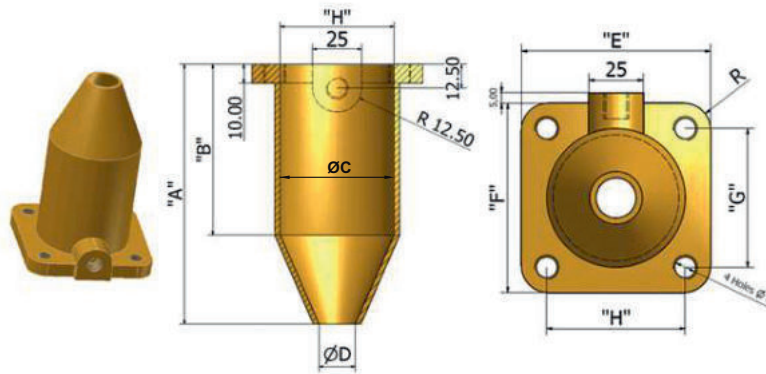


No.	Qty	Description	Remarks
1	1	Terminal Box	Aluminium casted
2	2	Bolt	M10x30
3	2	Nut	M10
4	2	Spring Washer	Ø 10.2

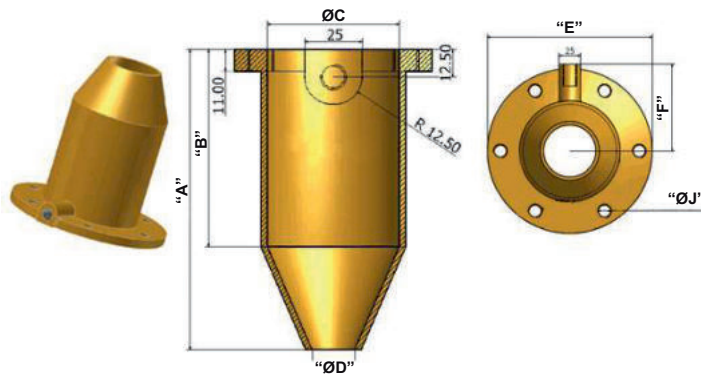
Aluminium injected body (not casted), A2-70 DIN 934 hexagonal nuts and DIN933 bolts 70µ RAL 7033 painted NBR gasket

Types	L	a	Øb	c	d	Øe	g	f
KB 32	75	52	32	65	40	35	2	17
KB 52	120	80	52	102	54	50	3	30
KB 85	200	125	85	150	100	105	5	50





Type	Cable Ø	Dimensions									
		A	B	ØC	ØD	E	F	G	H	Ø1	R
X	12~51	137	90	60	19	90	90	66	66	12	12
Y	25~78	155	95	108	32	114	123	95	86	14	14



Type	Cable Ø	Dimensions						
		A	B	ØC	ØD	E	F	ØJ
Z	25~94	195	140	108	32	190	100	14





What is Cupal?

Cupal consists of copper sheet metal clad on pure Aluminium (base metal), both metals being diffused together to form an inseparable whole by roll bonding process.

Why Cupal?

It is known that when the Aluminium Terminals are directly connected to Copper Terminals to carry current at a high voltage, a bimetallic galvanic corrosion occurs, resulting in a high resistance at the joint. The heated joints are oxidized and loses contact resulting in sparks, voltage dropout power losses and failure, damage to machinery.

When Cupal bimetal is placed between Aluminium Terminal and Copper Terminal at the joint (with Copper facing and Aluminium facing), bimetallic galvanic corrosion is averted due to absence of air in CUPAL bimetal. CUPAL is thus used at dissimilar metals joints of Aluminium and Copper to make similar metal's contact.

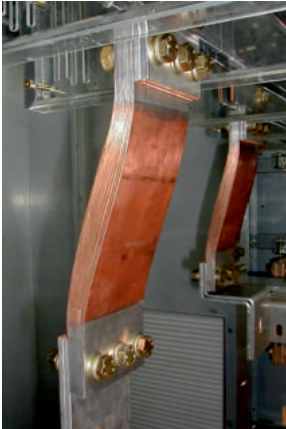
CUPAL has been successfully evaluated and used by many of the world's leading electrical equipment manufacturers.

Applications:

- Substation accessories like Bimetallic clamp and connectors
- Flexible connectors
- Cable clamp and cable end connectors
- Distribution and panel boards
- Isolators and switchgears
- Circuit Breakers

Specifications	Aluminium	Copper
Purity	99.50%	99.90%
Standard Composition By Volume	80%	20%
Standard Composition By Weight	55%	45%
Density at 200C	3,95 gms/cm ³	
Max electrical resistivity at 20°C	2,6 µO/cm	
Min electrical conductivity at 20°C	65% IACS	





Range of application:

Press Welding provides the best mechanical & electrical properties at high temperatures. Moreover, the laminated flexibles take less cross section area than braided flexible. These are available in all sizes covering the desired cross section area. Slotted holes can be provided up on request. Our laminated flexible connectors are necessary everywhere where it is impossible to use solid bus bars to transfer the current.

Main applications are:

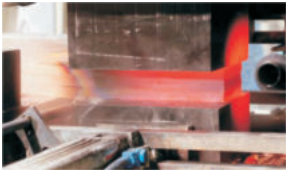
- Expansion-equilibration in bus bar-systems
- Expansion-equilibration to connect transformers and generators
- Vibration-equilibration
- Moveable current-transfer in machines and devices
- Switching elements in switches



Description:

Laminated flexible connectors are made out of copper in case of copper alternatively in tinned configuration. The foil-cutoffs will be stacked and after this united at the contact-areas by using a tuned process for the later application. For this we use foils from 0,05 up to 1 mm thickness. The width and thickness of the connector is chosen by the customers.

Please contact with us for detailed information. We also develop special-designs for your individual applications.



Procedure:

We use to produce laminated flexible copper connectors with Press welding

Materials:

In order to optimize the max. load and conductance of our connectors we use exclusively pure and extreme transmittable materials as foils and sheet metal covers.

For copper-connectors Cu-ETP (previously E-Cu) and Cu-HCP (previously SE-Cu) according DIN EN 13599

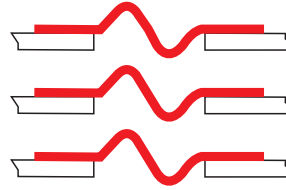
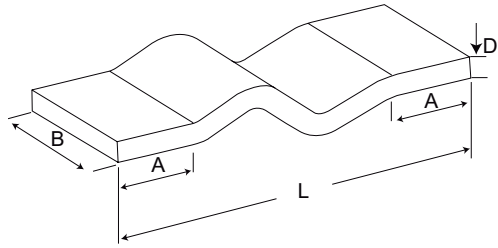


Form:

For different applications we offer a wide range of standard shapes and also special designs : S, U and V Form



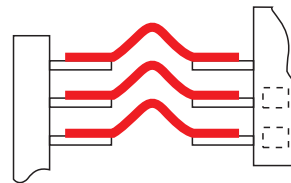
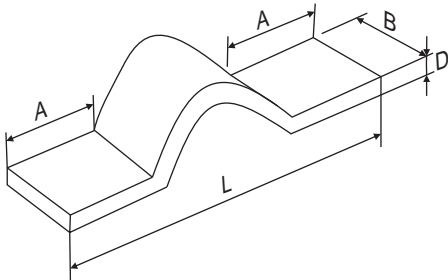
S FORM - Copper flexible, laminated, preswelded, undrilled



Expansion connectors inside of bus bar - systems S form

Part Name	B Width	D Thickness	A Terminal		Dilatation		Nominal Current 35C/65C	Cross Section mm ²
			Lenght	L Length	Lenght	Form		
ARCU 38/5/60/220/S	38	5	60	220	+/- 25	S	490A	240
ARCU 48/5/60/220/S	48	5	60	220	+/- 25	S	590A	380
ARCU 38/10/60/250/S	38	10	60	250	+/- 25	S	720A	480
ARCU 48/10/60/250/S	48	10	60	250	+/- 25	S	860A	580
ARCU 58/10/80/310/S	58	10	80	310	+/- 25	S	990A	780
ARCU 78/10/80/310/S	78	10	80	310	+/- 25	S	1240A	980
ARCU 98/10/100/350/S	98	10	100	350	+/- 25	S	1490A	1180
ARCU 118/10/100/350/S	118	10	100	350	+/- 25	S	1710A	1200

V FORM - Copper flexible, laminated, preswelded, undrilled



Connections between switchgears, transformers or generators and prefabricated power networks V form

Part Name	B Width	D Thickness	A Terminal		Dilatation		Nominal Current 35C/65C	Cross Section mm ²
			Lenght	L Length	Lenght	Form		
ARCU 38/5/50/180/V	38	5	50	180	+/- 20	V	490A	190
ARCU 38/5/50/220/V	38	5	50	220	+/- 20	V	490A	190
ARCU 38/5/80/280/V	38	5	80	280	+/- 20	V	490A	190
ARCU 38/10/50/180/V	38	10	50	180	+/- 20	V	720A	380
ARCU 38/10/50/220/V	38	10	50	220	+/- 20	V	720A	380
ARCU 38/10/80/280/V	38	10	80	280	+/- 20	V	720A	380
ARCU 48/5/50/220/V	48	5	50	220	+/- 20	V	590A	240
ARCU 48/10/80/280/V	48	10	80	280	+/- 20	V	860A	480
ARCU 58/10/70/240/V	58	10	70	240	+/- 20	V	990A	580
ARCU 58/10/80/280/V	58	10	80	280	+/- 20	V	990A	580
ARCU 78/10/90/280/V	78	10	90	280	+/- 20	V	1240A	780
ARCU 78/10/100/320/V	78	10	100	320	+/- 20	V	1240A	780
ARCU 98/10/100/300/V	98	10	100	300	+/- 20	V	1490A	980
ARCU 98/10/100/320/V	98	10	100	320	+/- 20	V	1490A	980
ARCU 98/10/110/360/V	98	10	110	360	+/- 20	V	1490A	980
ARCU 98/15/110/360/V	98	15	110	360	+/- 20	V	2050A	1470
ARCU 118/20/130/400/V	118	10	130	400	+/- 20	V	1710A	1180

Construction and application manufactured out of highly flexible braids with solderless pressed contact areas made out of seamless Cu-ETP-tubes. The crimping process is realized without using additives like tin or soldering and welding additives. We use exclusively materials of same analysis and same conductivity of 57 S (braids and tubes). Suitable as earthing tapes as well as components for current transfer. Everywhere applicable where components with high flexibility and an optimized contact resistance are needed.

Remark :

Manufacturing in large as well as small quantities in length acc. to your wishes. On request also with changed drilling deliverable. When placing an order please specify the wished changes.

Technical data :

Braids made out of annealed Cu-ETP wires surface uncoated or tinned.

wire-Ø 0,07 mm (10 mm²)

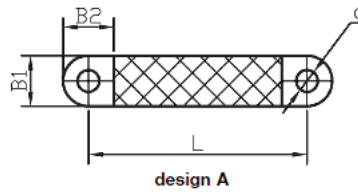
wire-Ø 0,16 mm (14 mm²)

wire-Ø 0,10 mm (16-70 mm²)

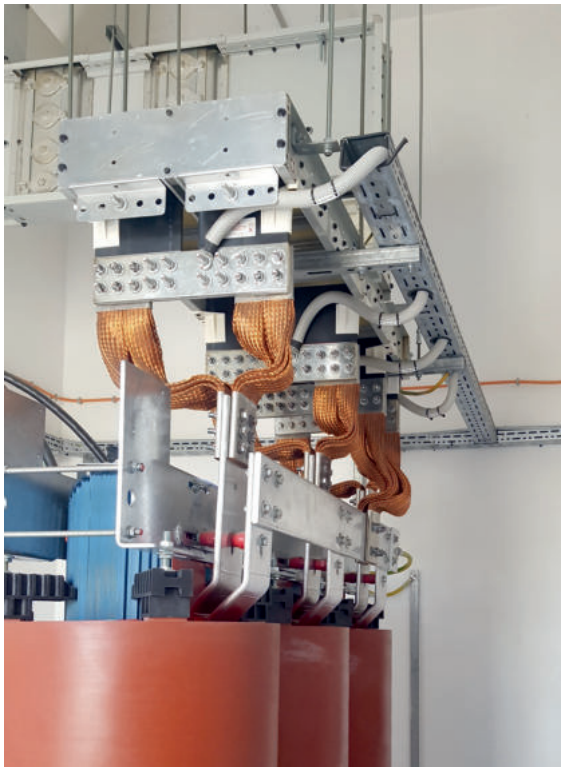
Contact areas :

Seamless copper tube made out of Cu-ETP material surface uncoated or tinned, ET10-100/T (tinned)

ET10-100/U (uncoated)



Code	Cross-section mm ²	L	B1xB2	d
ET10-100/T or U	10	100	15x15	6,5
ET10-150/T or U	10	150	15x15	6,5
ET10-200/T or U	10	200	15x15	6,5
ET10-250/T or U	10	250	15x15	6,5
ET10-300/T or U	10	300	15x15	6,5
ET14-100/T or U	14	100	20x20	9
ET14-150/T or U	14	150	20x20	9
ET14-200/T or U	14	200	20x20	9
ET14-250/T or U	14	250	20x20	9
ET14-300/T or U	14	300	20x20	9
ET16-100/T or U	16	100	20x20	9
ET16-150/T or U	16	150	20x20	9
ET16-200/T or U	16	200	20x20	9
ET16-250/T or U	16	250	20x20	9
ET16-300/T or U	16	300	20x20	9
ET25-100/T or U	25	100	25x25	9
ET25-150/T or U	25	150	25x25	9
ET25-200/T or U	25	200	25x25	9
ET25-250/T or U	25	250	25x25	9
ET25-300/T or U	25	300	25x25	9
ET35-100/T or U	35	100	30x30	9
ET35-150/T or U	35	150	30x30	9
ET35-200/T or U	35	200	30x30	9
ET35-250/T or U	35	250	30x30	9
ET35-300/T or U	35	300	30x30	9
ET50-100/T or U	50	100	30x30	9
ET50-150/T or U	50	150	30x30	9
ET50-200/T or U	50	200	30x30	9
ET50-250/T or U	50	250	30x30	9
ET50-300/T or U	50	300	30x30	9
ET70-100/T or U	70	100	40x40	11
ET70-150/T or U	70	150	40x40	11
ET70-200/T or U	70	200	40x40	11
ET70-250/T or U	70	250	40x40	11
ET70-300/T or U	70	300	40x40	11
ET95-100/T or U	95	100	30x30	12,5
ET95-150/T or U	95	150	30x30	12,5
ET95-200/T or U	95	200	30x30	12,5
ET95-250/T or U	95	250	30x30	12,5
ET95-300/T or U	95	300	30x30	12,5
ET185-100/T or U	185	100	30x30	12,5
ET185-150/T or U	185	150	30x30	12,5
ET185-200/T or U	185	200	30x30	12,5
ET185-250/T or U	185	250	30x30	12,5
ET185-300/T or U	185	300	30x30	12,5





For mechanical, electrical, physical and chemical endurance choose Cast polyamide.

A full range of Cast Polyamid Coil Support Blocks in various styles according to customer request from Cast polyamide. Due to the wide number of patterns please let us have your requirements.

Tooling for special requirements is possible and PA 6G is cheaper instead of resin supports. Styles too numerous to mention so please provide us with your specific drawing.

Cast Polyamide PA 6G advantages:

- better mechanical stability
- lower water absorption
- better creep resistance
- better dimensional stability
- higher wear resistance

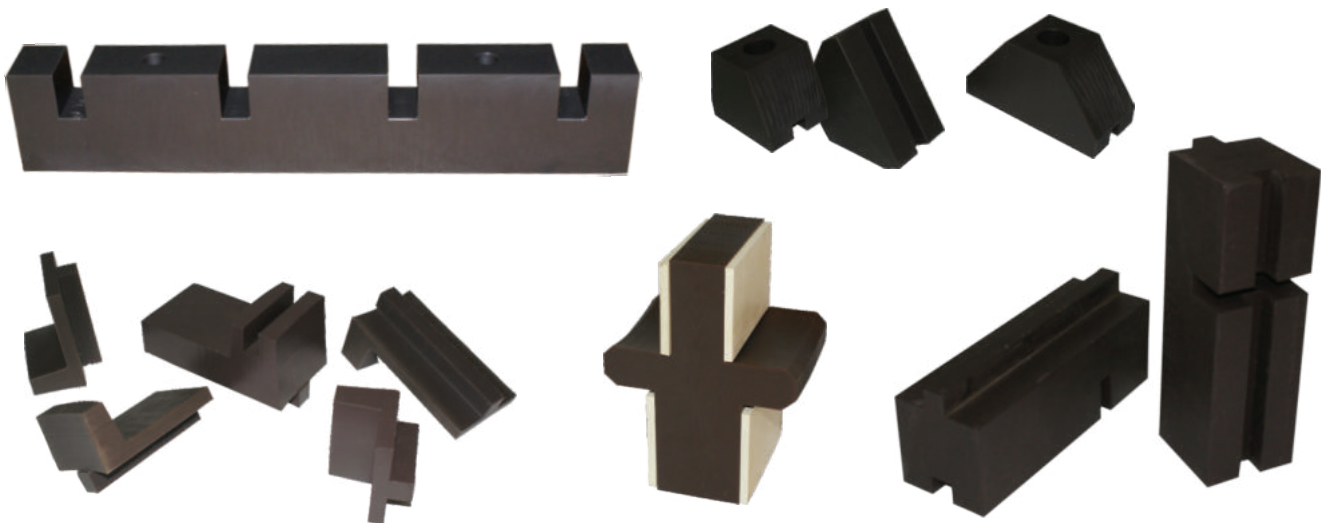
Properties	Value	
Density (g/cm3)	:1,13-1,15	DIN53479
Impact strenght J	:4-25	DIN53453
Hardness shore D	:D85-90	DIN53505
Tensile strenght (kg/cm3)	:600-980	DIN53455
Dielectric strenght (kV/mm)	:30	DIN53481
Service temperature C	:+120/+160	DIN53481

Good damping properties

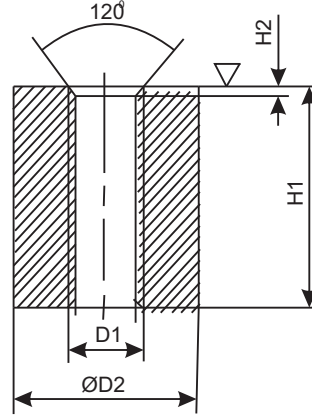
for the reduction of vibration and noise, PA 6G reduces vibration which is transferred from metallic parts. In the same way, PA 6 G allows reduction of the vibration affecting the machine frame. This way the life of transformers and their parts can be extended.

Good machining, dimensional stability, low residual stress

allow production of complex engineered components and application in transformer design areas. Machining can be performed with standard tools and conventional machines.



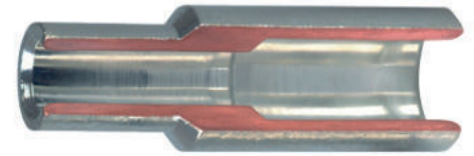
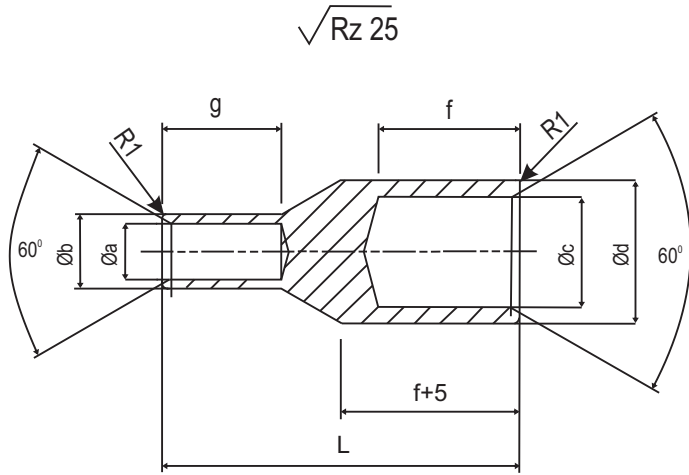
Tooling for special requirements of earthing conductors is possible please provide us with your specific drawing.



No	D1	ØD2	H1	H2	Weight (kg.)
31601	M4	10	15		0,006
31602	M6	10	20		0,012
31603	M8	16	20		0,031
31604	M10	20	15	0,5	0,026
31605	M12	30	25	1	0,120
31606	M12	25	25	2	0,120
31607	M12	20	20	2	0,035
31608	M8	16	20	2	0,029
31609	R1/2"	40	30	1	0,300
31610	R1"	45	50	-	0,220
31611	M16	40	30	1	0,300

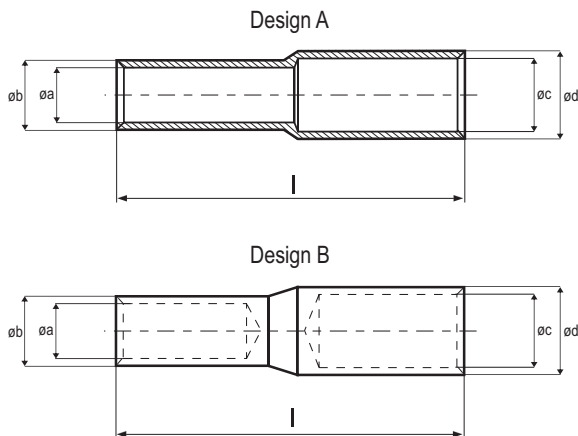


Material: copper, galvanically tinned.
without plating available



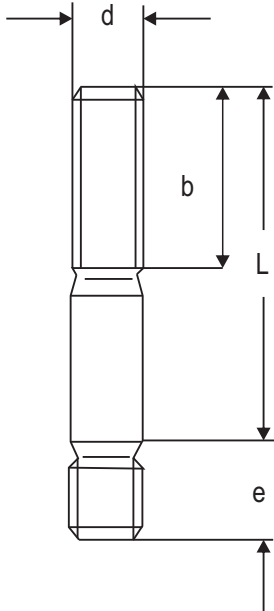
No	conductor diameter	braided section	braided diameter	ØA	ØB	ØC	ØD	F	G	L
A1	8	50	10	8,2	13,5	11,5	17,0	32	24	66
A2	10	70	12	10,2	15,5	13,5	19,0	32	32	74
A3	10	95	14	10,2	15,5	15,5	20,8	32	32	74
A4	12	120	16	12,2	17,5	17,0	23,2	40	32	82
A5	14	150	18	14,2	19,5	19,0	25,3	40	32	82
A6	16	185	20	16,2	21,5	21,5	28,5	40	32	82
A7	18	240	23	18,2	23,5	24,5	32,0	54	40	104
A8	20	300	26	20,2	25,5	27,5	38,0	65	40	115

Material: tin plated Cu-ETP DIN EN 13601



Any order dimensions are available according to individual arrangements

Material: A2-70

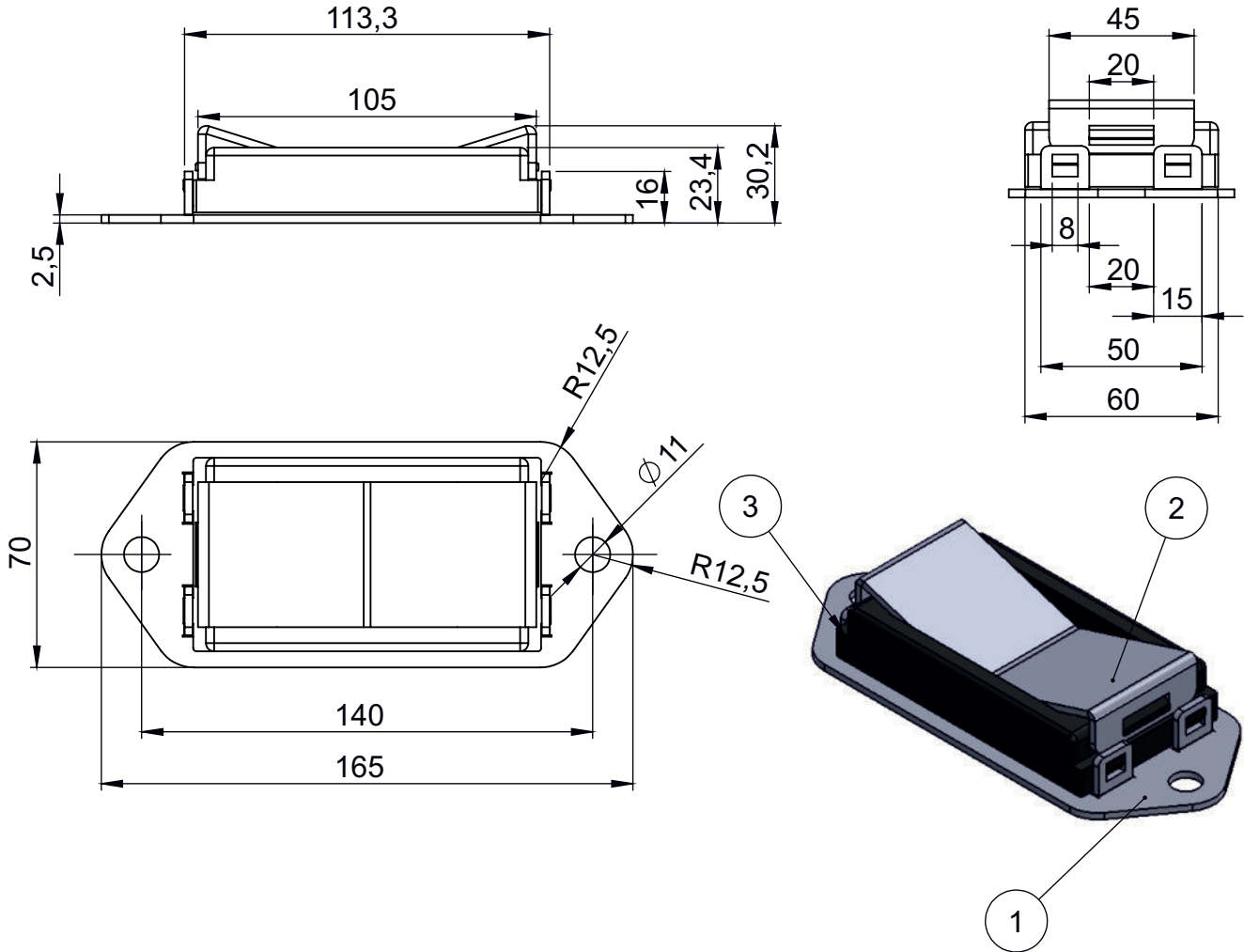


d	b	e	L
M5	16	5	acc. to customer request 20mm-220mm
M6	18	6	
M8	22	8	
M10	26	10	
M12	30	12	
M14	34	14	
M16	38	16	
M18	42	18	
M20	46	20	
M24	54	24	

Stud Bolts

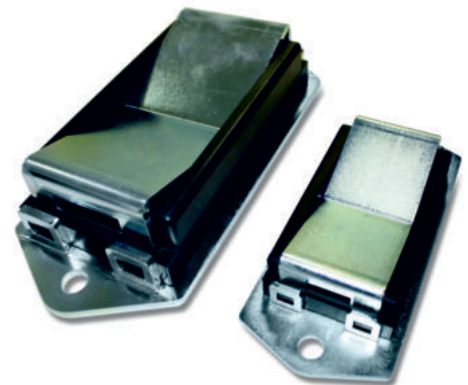


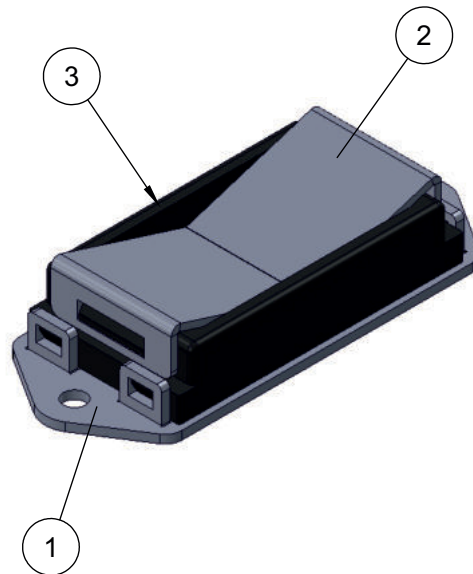
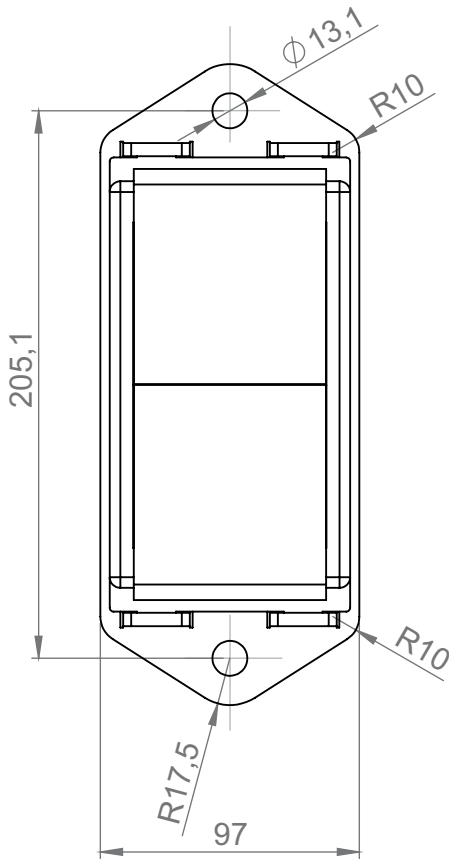
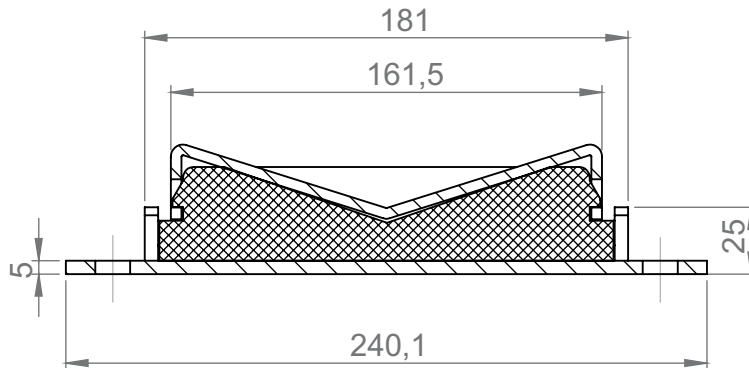
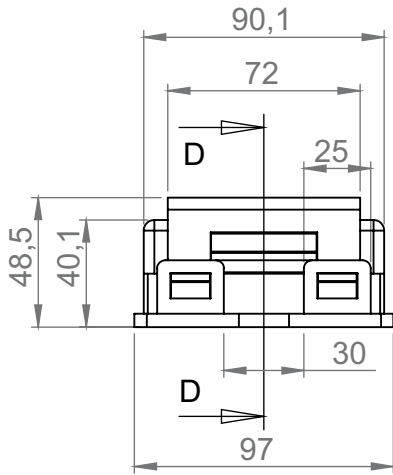
1520 different designs of stud bolts we manufacture (DIN 668/ DIN 938/ T0727 / T0729 with M6-M8-M10-M12-M16-M20-M24-M32-M36-M40-M42), We can machine as your specified dimensions for your stud bolts up to 3000 mm. Plating of electrogalvanize, silver, tin, nickel is possible.



L (mm)	W (mm)	H (mm)	l1 (mm)	w1 (mm)	ØD (mm)	thk (mm)	Weight (mm)	Max load (mm)	Max compression (mm)
165	70	30	140	45	11	3	0,5	800	2

NO	DESCRIPTION	MATERIAL	QTY
1	BOTTOM PART	STEEL	1
2	TOP PART	STEEL	1
3	PAD	HARD RUBBER	1

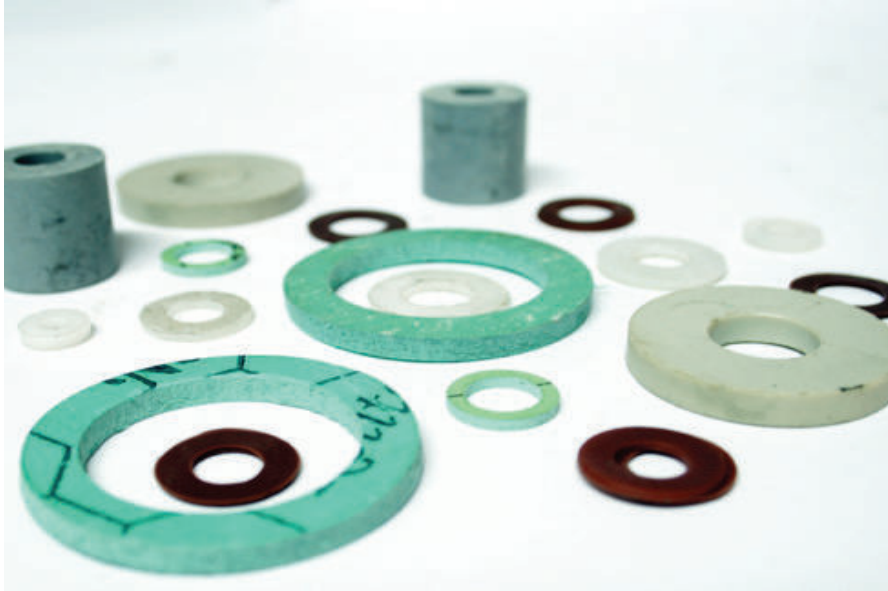




L (mm)	W (mm)	H (mm)	l1 (mm)	w1 (mm)	ØD (mm)	thk (mm)	Weight (mm)	Max load (mm)	Max compression (mm)
240	97	50	205	72	13	5	1,8	1900	3

NO	DESCRIPTION	MATERIAL	QTY
1	BOTTOM PART	STEEL	1
2	TOP PART	STEEL	1
3	RUBBER PAD	HARD RUBBER	1

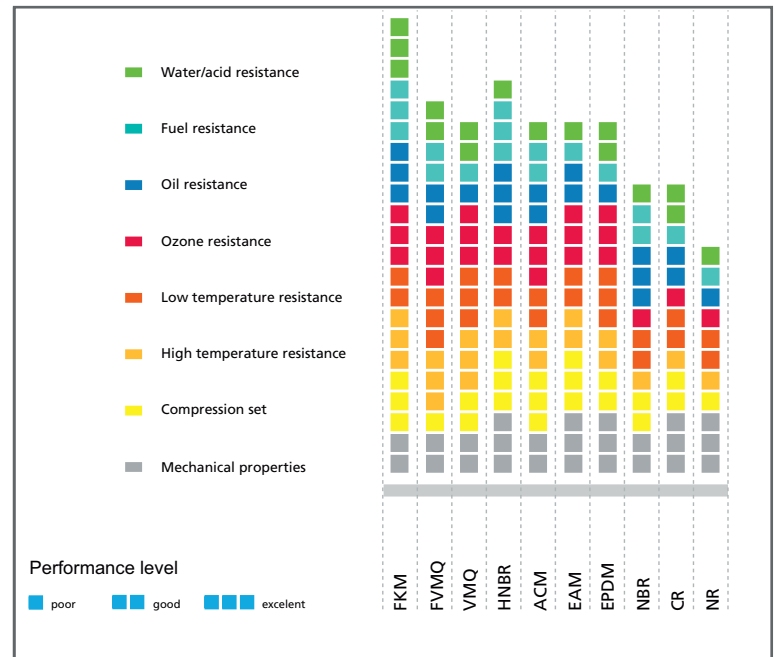
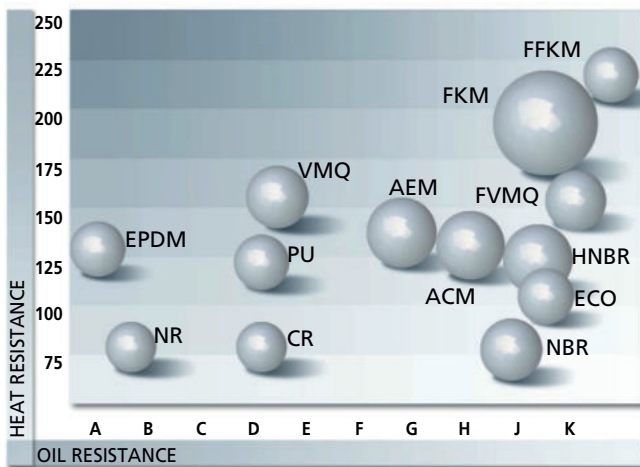
Gaskets and O-rings



We can supply Viton, NBR, Teflon, Epdm, Polyamide, Klingerit gaskets and O-rings. In addition to rubber and plastic moulding, we can provide different choices for tightness.

Table of Properties

The Figure shows a detailed classification among different compound families, by the most common requirements of mechanical properties and resistance to chemical agents.



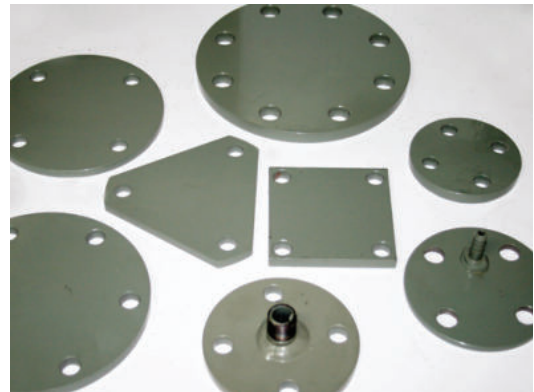
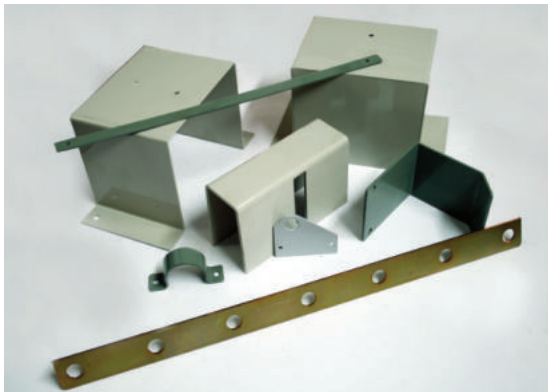
Flanges



Brass and copper components and nuts



Welded, bended and painted parts



General Information



ARES provides optimal solutions for air forced cooling of transformers. High performance axial fans are designed to dissipate heat generated by transformer losses while complying with the market requirements and assure fail-safe operations in all industrial zones.

Main Features



- ✚ Engineered for transformer operation
- ✚ Built-in thermal protection
- ✚ Easy installation
- ✚ High corrosion resistance
- ✚ Safe operation with complete guard grilles
- ✚ Suitable for extreme ambient temperatures
- ✚ Wide customization options

Proven Performance

- ✓ IEC 60335-2-80 : Household and similar electrical appliances
 - Tested by TÜV & TSEK
- ✓ EN ISO 12100-1&2, EN 1050, EN 60204-1 : Safety of Machinery
 - Tested by TÜV
- ✓ BS EN 12101-3 : Specification for Powered Smoke and Heat Exhaust Ventilators
 - Tested by BSRIA (CE Marking)
- ✓ BS EN ISO 5801 : Industrial fans performance testing using standardized airways
 - Tested by CETIAT
- ✓ IEC 60068-2-11 : Environmental testing
 - Tested by TSEK (C4 according to BS EN ISO 12944-2)
- ✓ IEC 60529 : Degrees of protection provided by enclosures
 - Tested by ESIM
- ✓ GOST Certificate



General Information



ARES provides optimal solutions for air forced cooling of transformers. High performance centrifugal fans are designed to dissipate heat generated by transformer losses while complying with the market requirements and assure fail-safe operations in all industrial zones.

Main Features



- ✚ Engineered for transformer operation
- ✚ Built-in thermal protection
- ✚ Easy installation
- ✚ High corrosion resistance
- ✚ Suitable for high&low ambient temperatures
- ✚ Wide customization options

Proven Performance

- ✓ IEC 60335-2-80 : Household and similar electrical appliances
 - Tested by TÜV & TSEK
- ✓ EN ISO 12100-1&2, EN 1050, EN 60204-1 : Safety of Machinery
 - Tested by TÜV
- ✓ BS EN ISO 5801 : Industrial fans performance testing using standardized airways
 - Tested by CETIAT
- ✓ IEC 60529 : Degrees of protection provided by enclosures
 - Tested by ESIM
- ✓ GOST Certificate









General Information



ARES provides optimal solutions for air forced cooling of transformers. High performance cross-flow fans are designed to dissipate heat generated by transformer losses while complying with the market requirements and assure fail-safe operations in all industrial zones.

Main Features



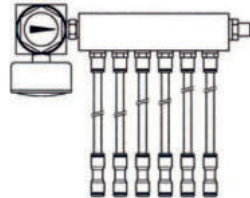
-  Engineered for transformer operation
-  Built-in thermal protection
-  Easy installation
-  High corrosion resistance
-  Suitable for high&low ambient temperatures
-  Wide customization options

Proven Performance

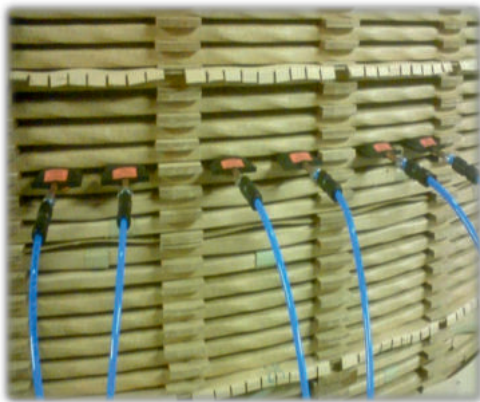
- ✓ IEC 60335-2-80 : Household and similar electrical appliances
 - Tested by TÜV & TSEK
- ✓ EN ISO 12100-1&2, EN 1050, EN 60204-1 : Safety of Machinery
 - Tested by TÜV
- ✓ BS EN ISO 5801 : Industrial fans performance testing using standardized airways
 - Tested by CETIAT
- ✓ IEC 60529 : Degrees of protection provided by enclosures
 - Tested by ESIM
- ✓ GOST Certificate

PRONAL'S VTR LIFTING BAG ADVANTAGES

- NBR coated fabric bags (oil resistant)
- All dimensions possible (lifting height (stroke) will be app. Half the width of the bag).
- Thickness deflated 3mm / 5mm
- Inflation pressure up to 5 bar (under load)
- Do not damage the insulation paper
- Easy to install and to use: reduce costs !



GLOBAL OVERVIEW



PURPOSE OF PRONAL OIL TANK

PRONAL's VTR CUSHIONS are optimized solution to lift the core's windings while reducing stresses and damages on the insulation paper Lifting the winding to adjust / insert spacers
Repairing winding during maintenance operations

VTR

Pneumatic lifting bags are an alternative lifting method to insert/adjust spacers into the winding of the coil.

VTR are available in several sizes, thicknesses, working pressures. (Contact us for more technical info).

VTR are inserted between the winding and are then inflated. They smoothly lift the winding and allow the spacer insertion/adjustment.

Due to their special features, Pronal lifting bags prevent:

- Stress on the winding that could cause damage.
- Damages to the insulating paperboard.

