

3115-ISO

HIGH CAPACITY COMPRESSION STANDARD REFERENCE FORCE TRANSDUCER

Standard reference force transducer specially designed according to the norm ISO 376(1) (Class "1", "05" and "00").

- Broad range of capacities (up to 30 MN)
- Compact design – Limited weight
- Complete range of load accessories
- Protection: IP65
- Material: Nickel plated alloy steel
- Options:
 - o Digital output RS-232C, RS-485 or USB
 - o Custom made dimensions



Model 3115S - 5MN - V

CAPACITIES :

3110- 3115 : 30 - 50 - (75) - 100 - (150) - 200 - 300 - 500 kN
(0,75) - 1 - 2 - 3 - 5 - 7,5 - 10 - 15 - 20 - 30 MN

TECHNICAL DATA				
	Class	1	05	00
Hysteresis		$\leq \pm 0.30$	$\leq \pm 0.15$	$\leq \pm 0.07$
Repeatability with rotation		$\leq \pm 0.20$	$\leq \pm 0.10$	$\leq \pm 0.05$
Repeatability without rotation (repeatability)	% RO ⁽²⁾	$\leq \pm 0.10$	$\leq \pm 0.05$	$\leq \pm 0.025$
Creep (over 30 minutes)		$\leq \pm 0.10$	$\leq \pm 0.05$	$\leq \pm 0.025$
Return to zero		$\leq \pm 0.05$	$\leq \pm 0.025$	$\leq \pm 0.012$
Reference temperature		20		
Compensated temperature range	°C	-10 .. +45		
Service temperature range		-30 .. +70		
Storage temperature range		-50 .. +85		
Temperature coefficient on sensitivity	% RO / °C	$\leq \pm 0.035$	$\leq \pm 0.035$	$\leq \pm 0.015$
Temperature coefficient on zero	% FS ⁽³⁾ °C	$\leq \pm 0.03$	$\leq \pm 0.03$	$\leq \pm 0.023$
Sensitivity	mV/V	1.5...2		
Time of stabilization after power excitation	s	200...600		
Input resistance	Ohm	350 ± 3 or 700 ± 5		
Output resistance	Ohm	350 ± 2 or 700 ± 4		
Insulation resistance (50V)	MOhm	> 5000		
Nominal excitation voltage	V	10		
Maximum excitation voltage	V	15		
Service load		100		
Limit load	% FS	110		
Breaking load		> 300		

⁽¹⁾ The class G0,5 of the norm DIN 51301 (D), the class 0 of the norm NFA 03-510 (F), the class 0 of the norm NBN X07-001 (B) and the class 0,5 of the norm EN 10002-3 are equivalent with the class 05 of the norm ISO376.

⁽²⁾ RO is the rated output (i.e.: measured value). The mentioned values are only valid if RO ≥ 20% of full scale).

⁽³⁾ FS is the full scale of the force transducer.

LOAD CELLS

model 3115

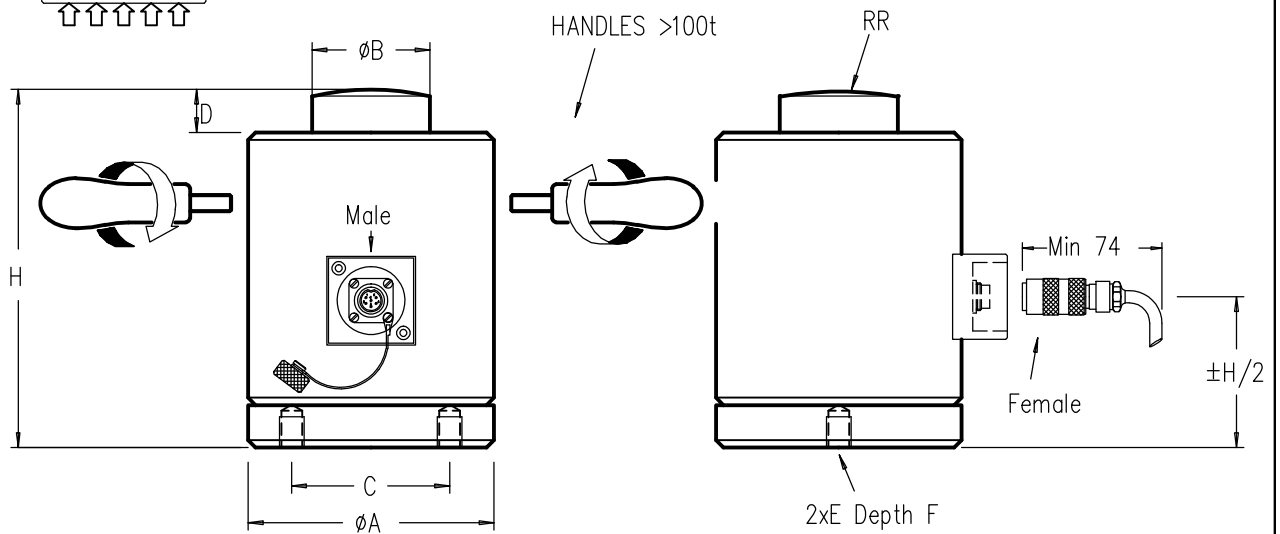
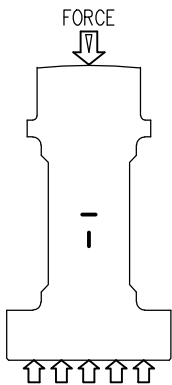
alloy steel



EN 10002

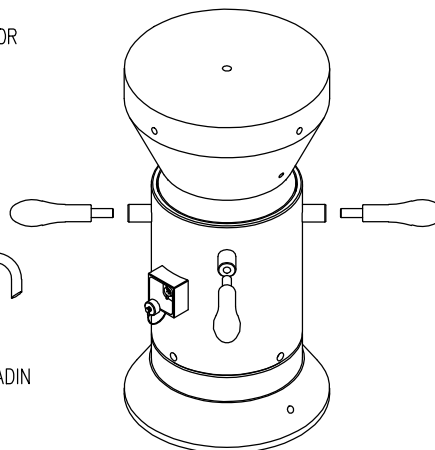
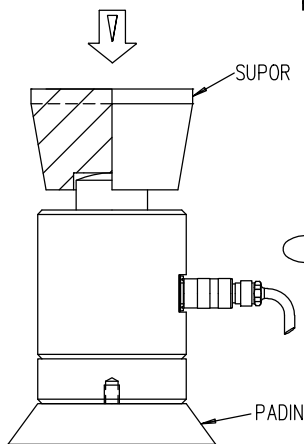
COMPRESSION

Range 30kN-30MN (3-3000 t.) IP65
Cable length : see table (CL)

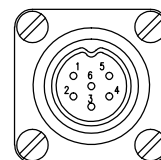


CAPACITIES	φA	φB ^{-0.05/-0.15}	C	D	E	F	H	RR	CL	Max.Deflexion	R Input(ohms)	Weight
30 - 50 kN	64	36	45	20	M10	12	135	250	6 m	0.12 mm	±350 Ω (0.25,0.1%) ±700 Ω (0.05%,0.03% or cl 1,cl 0.5,cl 00 to ISO 376)	2kg
75 - 200 kN					M12	15	160	300		0.16-0.18 mm		2.2kg
300-500 kN	89	56	60	30	M16	16	190	400		0.18-0.20 mm		4.5kg
0.75 - 1 MN	99	64	65							0.33-0.34 mm		6 kg
1.5 - 2 MN	119	90	90	40	M20	20	270	450		0.29-0.35 mm		20kg
3 MN	159	125	100							±0.4 mm		42kg
5 MN	205	160	125	50	M30	35	350	500	±0.5 mm	90kg		
7.5-10 MN	294	200	200	60					40	460	600	±0.7 mm
15 - 20 MN	364	250	270	75	M36	50	550	800	12 m	±0.8 mm	446kg	
30 MN	445	300	300							600	1000	±0.85 mm

Remark : 2 - 30 MN (200-3000t) usually to customer design specification



FEMALE-MALE CONNECTOR DIN 45322



- CONTACT N°
- 1 Excitation - Yellow
 - 2 Signal + Green
 - 3 Signal - White
 - 4 Excitation + Brown
 - 5 Sense - Grey
 - 6 Sense + Pink

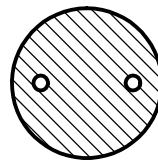
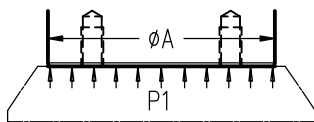
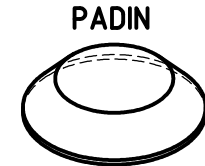
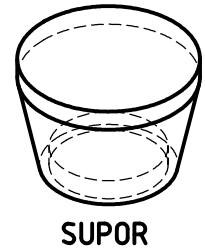
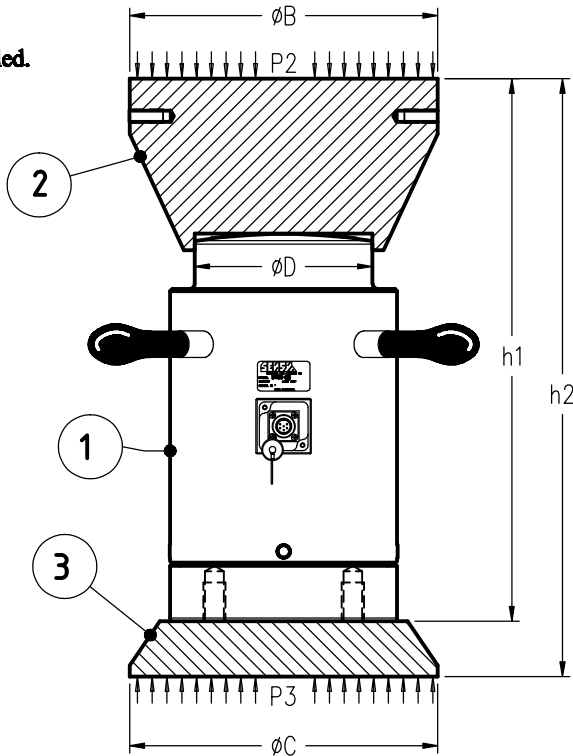
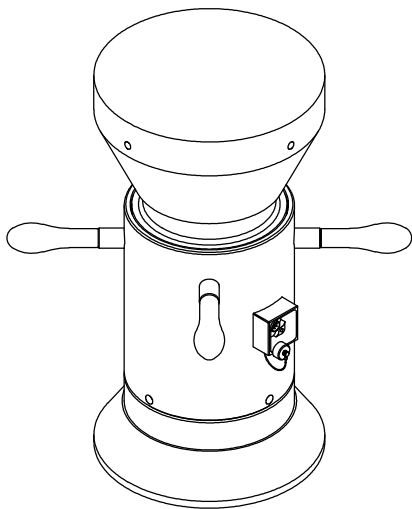
Cable screen not connected to transducer

CHOICE OF THE LOADING PADS FOR MODEL 3115



(EN 10002-3 & DIN 51301)

Principles: according to ISO 376.
The pressure on the compression plates of the testing machine should not be higher than 100 N/mm².
If necessary intermediate plates "PADIN"(3) should be chosen and installed.



CAPACITY ①	φD	φA	Section φA mm ²	Pressure P1 N/mm ²	TYPE ②	φB	Section φB mm ²	Pressure P2 N/mm ²	TYPE ③	φC	Section φC mm ²	Pressure P3 N/mm ²	h1	h2	
30 kN	36	64	2670	11	SUPOR 36	69	3739	8	NOT NECESSARY				174		
50 kN				19				13							
75 kN				28				20							
100 kN				37				27							
150 kN				56				40							
200 kN				75				53							
300 kN	56	89	5449	55	SUPOR 56	79	4902	61					200		
500 kN				92				102							
0.75 MN	64	99	6686	112	SUPOR 64	99	7698	97		PADIN 100	129	13070	57	237	262
1 MN				150	SUPOR 64E	114	10207	98					77	248	273
1.5 MN	90	119	9985	150	SUPOR 90B	164	21124	71		PADIN 125A	158	19607	77	317	342
2 MN				200				95					102	102	317
3 MN	125	159	18241	164	SUPOR 125B	195	29865	100	PADIN 160	248	48305	62	360	420	
5 MN	160	205	31103	161	SUPOR 160	248	48305	104	PADIN 210	248	48305	104	476	506	
7.5 MN	200	294	64638	116	SUPOR 200A	308	74506	101	PADIN 300	353	97868	77	615	650	
10 MN				155	SUPOR 200B	353	97868	102				102	640	675	
15 MN	250	364	99752	150	SUPOR 250A	438	150674	100	PADIN 365	503	198713	75	770	850	
20 MN				200	SUPOR 250B	503	198713	101				101	805	885	



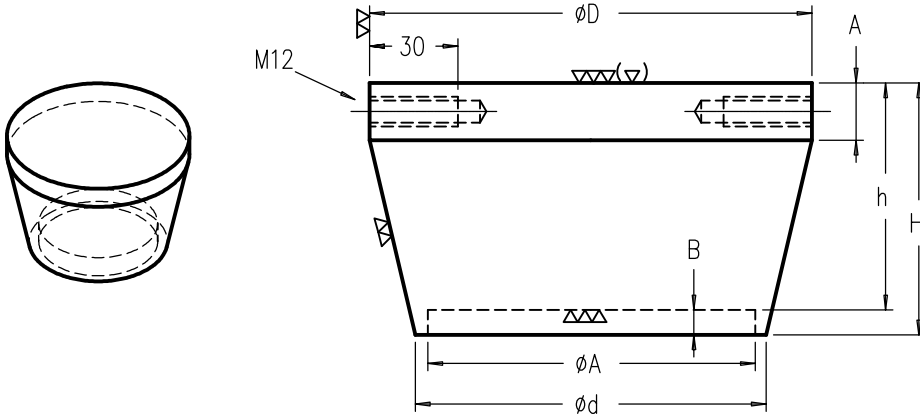
ACCESSORIES

model SUPOR stainless steel

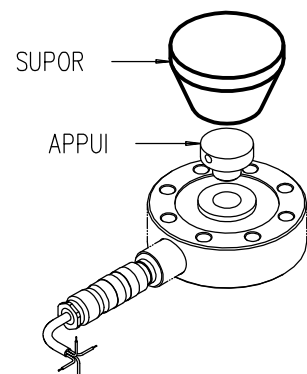
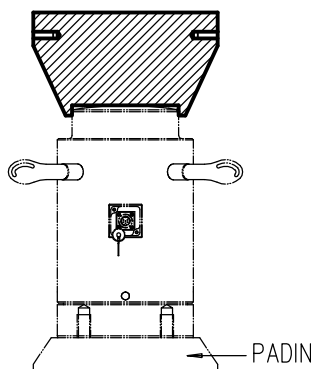
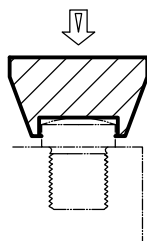
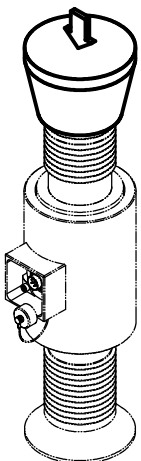


according to (EN 10002-3 & DIN 51301)

LOADING PAD



MODEL	TYPE	ØD	ØA	Ød	A	B	H	Weight (kg)	M 12 L=30
SUPOR	12	34	12 ^{+0.1} _{+0.05}	20	7	4	23	0.12	NO
	20	49	20 ^{+0.15} _{+0.07}	30	8	5	31	0.33	
	24	59	24 ^{+0.15} _{+0.08}	35	9	6	36	0.55	
	30	64	30 ^{+0.15} _{+0.1}	40		6	41	0.74	
	36	69	36 ^{+0.15} _{+0.1}	46	10	7	46	0.98	
	42	74	42 ^{+0.2} _{+0.1}	56	11	6.5	42	1.12	
	45	79	45 ^{+0.2} _{+0.1}	56		7	48	1.4	
	56		56 ^{+0.2} _{+0.1}	66	12	8	48	1.5	
	64	99	64 ^{+0.25} _{+0.15}	75				59	
	64E	114					70	3.9	
	76	119	76 ^{+0.25} _{+0.15}	90	15	12	67	4.4	
	90	129	90 ^{+0.25} _{+0.15}	100				74	
	90B	164					104	11.6	
	110	195	110 ^{+0.3} _{+0.2}	135	20	15	105	18	
125A	158	125 ^{+0.3} _{+0.2}	90				11		
125B	195		105				17.6		
160	248	160 ^{+0.3} _{+0.2}	±170	30	20	146	40	4x to 90°	
165	195	165 ^{+0.3} _{+0.2}	±175	20	10	100	20		
200A	308	200 ^{+0.3} _{+0.2}	±210	30	20	175	73		
200B	353					200	103	6 x to 60°	
250A	438	250 ^{+0.3} _{+0.2}	±290	40	30	250	209		
250B	503					285	294	6x to 60°	
330	503	330 ^{+0.5} _{+0.3}	±380	40	30	275	326	6x to 60°	

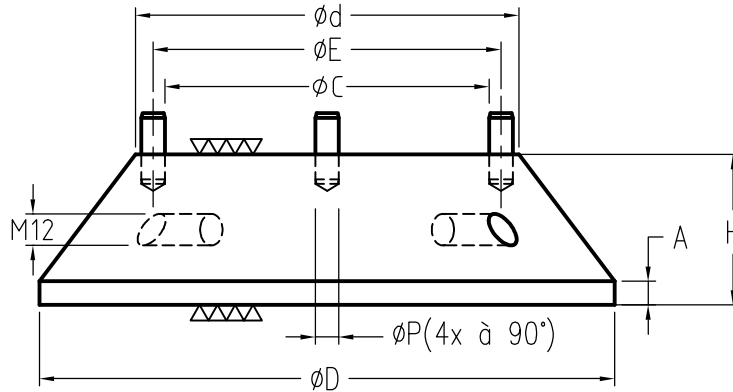


ACCESSORIES

model PADIN stainless steel

LOADING PAD

according to  **ISO 376**
(EN 10002-3 & DIN 51301)



TYPE	ϕd	ϕD	A	H	ϕE	ϕP	ϕC	M 12	For model	Weight
24	36	59	3	22	29	4	25	/	5100(5) 50 kN (M24x4)	0.34 kg
30	40	64	3	22	35	4	31	/	5100(5) 75-100 kN (M30x2)	0.4 kg
42	52	74	3	20	47	4	43	/	5100(5) 150-200 kN (M42x3)	0.53 kg
45	56	79	3	21	50	4	46	/	5100(5) 150-200 kN (M45x3)	0.64 kg
64	75	99	3	22	69	4	65	/	5100(5) 300-500 kN 0.75 MN (M64x4)	1.1 kg
64E	75	129	4	25	69	4	65	/	5100(5) 1 MN (M64x4)	1.8 kg
100	110	129	4	25	104	4	100	/	3110(5) 0.75-1 MN	2.3 kg
					95		91		5100 0.75-1-1.5 MN (M90x4)	
125A	144	158	6	25	134	4	126	/	5100 2 MN (M125x4)	3.7 kg
					128		120		3110 1.5 - 2 MN	
110E	130	195	8	51	119	8	111	2x à 180°	5100(5) 2-3 MN (M110x4)	9.4 kg
125B	150	195	8	45	134	8	126	2x à 180°	5100(5) 2-3 MN (M125x4)	9 kg
160	180	248	11	60	170	8	162	2x à 180°	3110(5) 3 MN 5100(5) 5 MN (M160x6)	18.6 kg
200A	235	308	12	67	214	12	202	2x à 180°	5100(5) 7.5 MN (M200x6)	32.9 kg
200B	235	353	12	90	214	12	202	4x à 90°	5100(5) 10 MN (M200x6)	52.5 kg
210	225	248	6	30	215	8	207	2x à 180°	3110(5) 5 MN	11 kg
250	280	438	10	80	264	12	252	4x à 90°	5100(5) 15 MN (M250x6)	69.75 kg
300	325	353	6	35	308	12	296	2x à 180°	3110(5) 7.5-10 MN	25.8 kg
365	400	503	8	80	379	12	367	4x à 90°	3110(5) 15-20 MN	105 kg
					345		333		5100(5) 20 MN (M330 x 6)	

