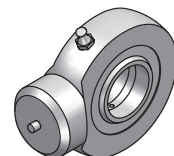
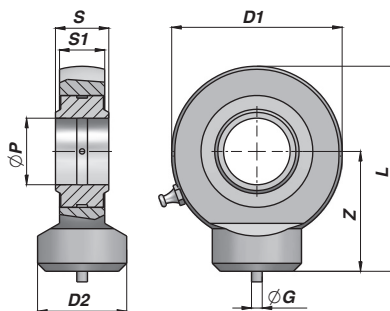


TABLEAU COMPARATIF ROTULES "GE"
CROSS REFERENCE SPHERICAL PLAIN BEARINGS

CONTARINI	SKF	INA	International Reference
CSTS ... C	SC ... ES	GK ... DO	-
CSTS ... N	SCF ... EF	GF ... DO	-
CSTSCE ... N	-	-	-
CSTAPR ... CE	SIQG ... ES	GIHNRK ... LO	-
CSTAPR ... U	SIR ... ES	GIHRK ... DO	-
CSTAPR ... N	SIRD ... ES	GIHR ... DO	-
CSTAPR ... UGAS	-	-	-
CSTAPR ... S	SIJ ... ES	GIHO-K ... DO	-
CSTFE ... DO / ... DO2RS	SI ... E (6÷12) - SI ... ES (15÷30) - SIA ... ES-2RS (35÷80)	GAR ... DO / GAR ... DO-2RS	-
CSTFI ... DO / ... DO2RS	SA ... E (6÷12) - SA ... ES (15÷30) - SAA ... ES-2RS (35÷80)	GIR ... DO / GIR ... DO-2RS	-
CSTFE ... UK / ... UK2RS	SA ... C - SAA ... TXE-2LS	GAR ... UK / GAR ... UK-2RS	-
CSTFI ... UK / ... UK2RS	SI ... C - SIA ... TXE-2LS	GIR ... UK / GIR ... UK-2RS	-
CSTFE ... PB	SAKAC ... M	GAKR ... PB	-
CSTFI ... PB	SIKAC ... M	GIKR ... PB	-
CSTFE ... PW	SAKB ... F	GAKR ... PW	-
CSTFI ... PW	SIKB ... F	GIKR ... PW	-

EMBOU A ROTULE
BALL-JOINT END WITH GREASE NIPPLE

CSTS...C



Code Code	ØP	Z	S	D1	S1	L	ØD2	ØG	FC (kN)	kg
*CSTS010C00	10	24	9	29	7	38.5	15.0	3	8.15	0,04
*CSTS012C00	12	27	10	34	8	44.0	17.5	3	10.80	0,06
**CSTS015C00	15	31	12	40	10	51.0	21.0	4	17.00	0,12
CSTS016C00 (A)	16	35	14	46	11	58.0	24.0	4	19.00	0,17
**CSTS017C00	17	35	14	46	11	58.0	24.0	4	21.20	0,18
CSTS020C00	20	38	16	53	13	64.5	27.5	4	30.00	0,26
CSTS025C00	25	45	20	64	17	77.0	33.5	4	48.00	0,45
CSTS030C00	30	51	22	73	19	87.5	40.0	4	62.00	0,67
CSTS035C00	35	61	25	82	21	102.0	47.0	4	80.00	1,02
CSTS040C00	40	69	28	92	23	115.0	52.0	4	100.00	1,40
CSTS045C00	45	77	32	102	27	128.0	58.0	6	127.00	1,93
CSTS050C00	50	88	35	112	30	144.0	62.0	6	156.00	2,69
CSTS060C00	60	100	44	135	38	167.5	70.0	6	245.00	4,60
CSTS070C00	70	115	49	160	42	195.0	80.0	6	315.00	7,00
CSTS080C00	80	141	55	180	47	231.0	95.0	6	400.00	11,00

FC = CHARGE DYN. MAXI - MAX DYNAMIC LOAD

(A) = SANS NORME - OUT OF RULE

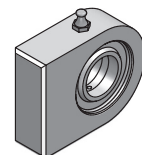
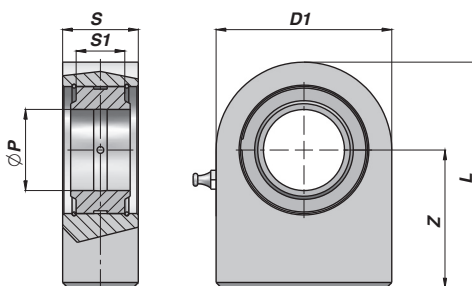
* = SANS GRAISSEUR - WITHOUT GREASE NIPPLE

** = GRAISSAGE PAR TROU - LUBRICATING HOLE IN THE HEAD

MATERIEL : ACIER ISO 12240-1 SERIE E - TYPE S
MATERIAL : STEEL ISO 12240-1 SERIES E - TYPE S

EMBOU A ROTULE
BALL-JOINT END WITH GREASE NIPPLE

CSTS...N



Code Code	ØP	Z	S	D1	S1	L	FC (kN)	kg
CSTS015N00	15	31	16.0	45	12	53.5	17.0	0,22
**CSTS016N00 (A)	16	35	17.5	48	14	59.0	21.2	0,29
CSTS017N00	17	35	17.5	48	14	59.0	21.2	0,29
CSTS020N00	20	38	19.0	50	16	63.0	30.0	0,36
CSTS025N00	25	45	23.0	55	20	72.5	48.0	0,53
CSTS030N00	30	51	28.0	65	22	83.5	62.0	0,85
CSTS035N00	35	61	30.0	83	25	102.5	80.0	1,50
CSTS040N00	40	69	35.0	100	28	119.0	100.0	2,42
CSTS045N00	45	77	40.0	110	32	132.0	127.0	3,39
CSTS050N00	50	88	40.0	123	35	149.5	156.0	4,24
CSTS060N00	60	100	50.0	140	44	170.0	245.0	7,10
CSTS070N00	70	115	55.0	164	49	197.0	315.0	10,70
CSTS080N00	80	141	60.0	180	55	231.0	400.0	15,10
CSTS090N00 (1)	90	150	65.0	226	60	263.0	490.0	23,40
CSTS100N00 (1)	100	170	70.0	250	70	295.0	610.0	33,10
CSTS110N00 (1)	110	185	80.0	295	70	332.5	655.0	48,50
CSTS120N00 (1)	120	210	90.0	360	85	390.0	950.0	79,50

FC = CHARGE DYN. MAXI - MAX DYNAMIC LOAD

(A) = SANS NORME - OUT OF RULE

* = SANS GRAISSEUR - WITHOUT GREASE NIPPLE

(1) = PANTOGRAPHES - PROFILE PLATE

MATERIEL : ACIER ISO 12240-1 SERIE E
MATERIAL : STEEL ISO 12240-1 SERIES E

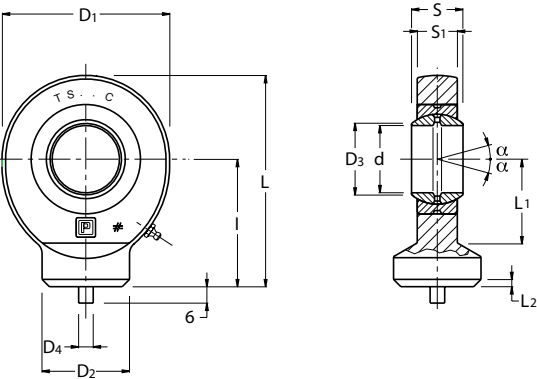
TS...C
(SC...ES; GK...DO)

TERMINALI A SNODO

SNODO SFERICO ISO 12240-4, SERIE E-TIPO S
RILUBRIFICABILI
ACCOPPIAMENTO ACCIAIO SU ACCIAIO

ROD ENDS

SPHERICAL BEARING ISO 12240-4, SERIES E-TYPE S
WITH GREASE NIPPLE
COUPLING: STEEL/STEEL



SIGLA (*) ARTICLE (*)	d	TOLLERANZE TOLERANCES		S	D3	I	D1	D2	S1	L	L1	L2	D4	FATTORI DI CARICO LIMITE LOAD FACTORS		GIUOCO SNODO RADIALE RADIAL CLEARANCE	ANGOLO DI OSCILLAZIONE α SWINGING ANGLE α	PESO IN Kg. WEIGHT Kg.
		d	S											C Dinamico Dynamic	Co Statico Static			
mm.												KN		mm	α°			
TS 10 C (1)	10	0 ÷ -0.008	0 ÷ -0.12	9	13.2	24	29	15	7	38.5	15	1.5	3	8.15	15.6	0.032 - 0.068	12	0.04
TS 12 C (1)	12	0 ÷ -0.008	0 ÷ -0.12	10	15	27	34	17.5	8	44	18	1.5	3	10.8	21.6	0.032 - 0.068	11	0.06
TS 15 C (2)	15	0 ÷ -0.008	0 ÷ -0.12	12	18.4	31	40	21	10	51	20	2	4	17	32	0.040 - 0.082	8	0.12
TS 16 C (2) (A)	16	0 ÷ -0.008	0 ÷ -0.12	14	20.7	35	46	24	11	58	23	2	4	19	36	0.040 - 0.082	9	0.17
TS 17 C (2)	17	0 ÷ -0.008	0 ÷ -0.12	14	20.7	35	46	24	11	58	23	2	4	21.2	40	0.040 - 0.082	10	0.18
TS 20 C (2)	20	0 ÷ -0.008	0 ÷ -0.12	16	24.1	38	53	27.5	13	64.5	27.5	2	4	30	54	0.040 - 0.082	9	0.26
TS 25 C	25	0 ÷ -0.010	0 ÷ -0.12	20	29.3	45	64	33.5	17	77	33	3	4	48	72	0.050 - 0.100	7	0.45
TS 30 C	30	0 ÷ -0.010	0 ÷ -0.12	22	34.2	51	73	40	19	87.5	37.5	3	4	62	95	0.050 - 0.100	6	0.67
TS 35 C	35	0 ÷ -0.010	0 ÷ -0.12	25	39.7	61	82	47	21	102	43	3	4	80	125	0.050 - 0.100	6	1.02
TS 40 C	40	0 ÷ -0.012	0 ÷ -0.12	28	45	69	92	52	23	115	48	4	4	100	156	0.060 - 0.120	7	1.40
TS 45 C	45	0 ÷ -0.012	0 ÷ -0.12	32	50.7	77	102	58	27	128	52	4	6	127	208	0.060 - 0.120	7	1.93
TS 50 C	50	0 ÷ -0.012	0 ÷ -0.12	35	56	88	112	62	30	144	59	4	6	156	250	0.060 - 0.120	6	2.69
TS 60 C	60	0 ÷ -0.012	0 ÷ -0.15	44	66.8	100	135	70	38	167.5	72.5	4	6	245	390	0.060 - 0.120	6	4.60
TS 70 C	70	0 ÷ -0.015	0 ÷ -0.15	49	77.8	115	160	80	42	195	86	5	6	315	510	0.072 - 0.142	6	7.00
TS 80 C	80	0 ÷ -0.015	0 ÷ -0.15	55	89.4	141	180	95	47	231	98	5	6	400	620	0.072 - 0.142	6	11.00

(1) NON RILUBRIFICABILE. (2) RILUBRIFICABILE MEDIANTE UN FORO DI LUBRIFICAZIONE SULLA TESTA.
(*) FORNIBILI ANCHE NELLA VERSIONE CON SNODO SFERICO RADIALE CON TENUTA - (...-2RS), CON SNODO SFERICO SRC... OPPURE SRL... DISPONIBILITA' E PREZZO A RICHIESTA.
E' POSSIBILE LA FORNITURA DI TERMINALI SPECIALI DOTATI DI SNODO SFERICO ESENTE DA MANUTENZIONE.
(VEDI CATALOGO SNODI SFERICI SERIE: SRB..., SRT...-2RS, SRLB..., SRLT...-2RS, SR...TGR, SR...TG3A...-2RS). PERTANTO I PEZZI SARANNO PRIVI DI INGRASSATORE O FORO OLIAIORE.
(1) NON LUBRICATABLE. (2) LUBRICATABLE BY A LUBRICATION OPENING ON THE HEAD.
(*) ALSO SUPPLIABLE IN THE SPHERICAL BALL JOINT VERSION WITH 2RS, WITH SPHERICAL BEARING SRC... AND SRL... AVAILABILITY AND PRICES UPON REQUEST.
POSSIBLE TO SUPPLY SPECIAL ROD ENDS WITH MAINTANANCE FREE SPHERICAL BEARING.
(SEE THE SPHERICAL BEARINGS FOR SERIES : SRB, SRT...-2RS, SRLB, SRLT...-2RS, SR...TGR, SR...TG3A...-2RS). THESE ARTICLES ARE AVAILABLE WITHOUT GREASE NIPPLES OR LUBRICATION HOLES.
(A) FUORI NORMATIVA - WITHOUT STANDARD

TS...N (SCF...ES; GF...DO)

TERMINALI A SNODO

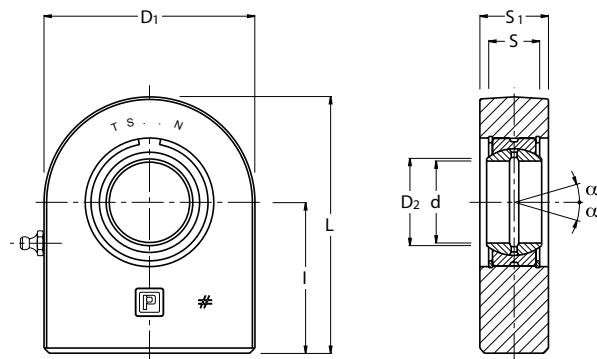
SNODO SFERICO ISO 12240-1 SERIE E
RILUBRIFICABILI

ACCOPPIAMENTO ACCIAIO SU ACCIAIO

ROD ENDS

SPHERICAL BEARING ISO 12240-1 SERIES E
WITH GREASE NIPPLE

COUPLING: STEEL/STEEL



SIGLA (*) ARTICLE (*)	d	TOLLERANZE TOLERANCES		S	D2	I	D1	S1	L	FATTORI DI CARICO LIMITE LOAD FACTORS		GIUOCO SNODO RADIALE RADIAL CLEARANCE	ANGOLO DI OSCILLAZIONE α SWINGING ANGLE α	PESO IN Kg. WEIGHT Kg.
		d	S							Dinamico Dynamic	Statico Static			
		mm.									KN			
TS 15 N	15	0 ÷ -0.008	0 ÷ -0.12	12	18.4	31	45	16	53.5	17	53	0.040 - 0.082	8	0.22
TS 16 N (A)	16	0 ÷ -0.008	0 ÷ -0.12	14	20.7	35	48	17.5	59	21.2	59	0.040 - 0.082	10	0.29
TS 17 N	17	0 ÷ -0.008	0 ÷ -0.12	14	20.7	35	48	17.5	59	21.2	65	0.040 - 0.082	10	0.29
TS 20 N	20	0 ÷ -0.010	0 ÷ -0.12	16	24.1	38	50	19	63	30	67	0.040 - 0.082	9	0.36
TS 25 N	25	0 ÷ -0.010	0 ÷ -0.12	20	29.3	45	55	23	72.5	48	69.5	0.050 - 0.100	7	0.53
TS 30 N	30	0 ÷ -0.010	0 ÷ -0.12	22	34.2	51	65	28	83.5	62	118	0.050 - 0.100	6	0.85
TS 35 N	35	0 ÷ -0.012	0 ÷ -0.12	25	39.7	61	83	30	102.5	80	196	0.050 - 0.100	6	1.50
TS 40 N	40	0 ÷ -0.012	0 ÷ -0.12	28	45	69	100	35	119	100	305	0.060 - 0.120	7	2.42
TS 45 N	45	0 ÷ -0.012	0 ÷ -0.12	32	50.7	77	110	40	132	127	386	0.060 - 0.120	7	3.39
TS 50 N	50	0 ÷ -0.012	0 ÷ -0.12	35	56	88	123	40	149.5	156	441	0.060 - 0.120	6	4.24
TS 60 N	60	0 ÷ -0.015	0 ÷ -0.15	44	66.8	100	140	50	170	245	570	0.060 - 0.120	6	7.10
TS 70 N	70	0 ÷ -0.015	0 ÷ -0.15	49	77.8	115	164	55	197	315	724	0.072 - 0.142	6	10.70
TS 80 N	80	0 ÷ -0.015	0 ÷ -0.15	55	89.4	141	180	60	231	400	804	0.072 - 0.142	6	15.10
TS 90 N (1)	90	0 ÷ -0.020	0 ÷ -0.20	60	98.1	150	226	65	263	490	1340	0.072 - 0.142	5	23.40
TS 100 N (1)	100	0 ÷ -0.020	0 ÷ -0.20	70	109.5	170	250	70	295	610	1516	0.085 - 0.165	7	33.10
TS 110 N (1)	110	0 ÷ -0.020	0 ÷ -0.20	70	121.2	185	295	80	332.5	655	2340	0.085 - 0.165	6	48.50
TS 120 N (1)	120	0 ÷ -0.020	0 ÷ -0.20	85	135.5	210	360	90	390	950	3210	0.085 - 0.165	6	79.50

(*) FORNIBILI ANCHE NELLA VERSIONE CON SNODO SFERICO RADIALE CON TENUTA - (...-2RS), CON SNODO SFERICO SRC... OPPURE SRL... . DISPONIBILITA'E PREZZO A RICHIESTA.

(1) PANTOGRAFATI.

(2) SU RICHIESTA TS160N - TS200N

E' POSSIBILE LA FORNITURA DI TERMINALI SPECIALI DOTATI DI SNODO SFERICO ESENTE DA MANUTENZIONE.

(VEDI SNODI SFERICI SERIE: SRB..., SRT...-2RS, SRLB..., SRLT...-2RS, SR...TGR, SR...TG3A...-2RS). PERTANTO I PEZZI SARANNO PRIVI DI INGRASSATORE O FORO OLITATORE.

(*) ALSO SUPPLIABLE IN THE SPHERICAL BALL JOINT VERSION WITH 2RS, WITH SPHERICAL BEARING SRC... AND, SRL... . AVAILABILITY AND PRICES UPON REQUEST.

(1) PROFILE PLATE.

(2) ON REQUEST TS160N - TS200N

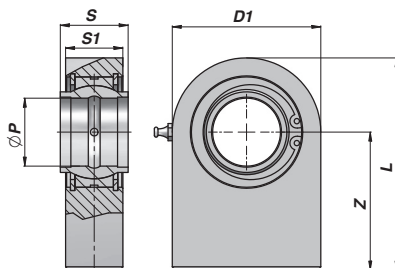
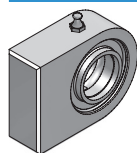
POSSIBLE TO SUPPLY SPECIAL ROD ENDS WITH MAINTANANCE FREE SPHERICAL BEARING.

(SEE THE SPHERICAL BEARINGS FOR SERIES : SRB, SRT...-2RS, SRLB, SRLT...-2RS, SR...TGR, SR...TG3A...-2RS). THESE ARTICLES ARE AVAILABLE WITHOUT GREASE NIPPLES OR LUBRICATION HOLES.

(A) FUORI NORMATIVA - WITHOUT STANDARD

CSTSCE...N

EMBOUIT A ROTULE
BALL-JOINT END WITH GREASE NIPPLE



Code Code	ØP	Z	S	D1	S1	L	FC (kN)	kg
CSTSCE720N	20	38	20	50	19	63.0	30.0	0,36
CSTSCE725N	25	45	25	55	23	72.5	48.0	0,54
CSTSCE732N	32	65	32	70	27	100.0	62.5	1,12
CSTSCE740N	40	69	40	100	35	119.0	100.0	2,50
CSTSCE750N	50	88	50	123	40	149.5	156.0	4,60
CSTSCE763N	63	107	63	145	50	178.0	248.0	9,30
CSTSCE770N	70	115	70	164	55	197.0	315.0	11,25
CSTSCE780N	80	141	80	180	60	231.0	400.0	15,75
CSTSCE790N (1)	90	150	90	226	65	263.0	490.0	24,00
CSTSCE795N (1)	100	170	100	250	70	295.0	610.0	33,95
CSTSCE796N (1)	110	185	110	295	80	332.5	655.0	49,00
CSTSCE797N (1)	125	210	125	360	90	390.0	950.0	81,00

FC = CHARGE DYN. MAXI - MAX DYNAMIC LOAD

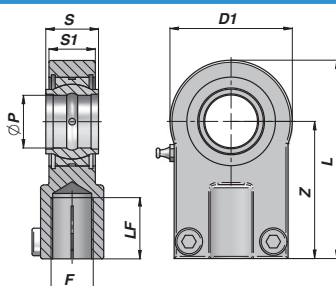
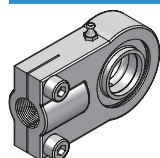
(1) = OXYCOUPAGE - PROFILE PLATE

MATERIEL : ACIER ISO 12240-1 SERIE W

MATERIAL : STEEL ISO 12240-1 SERIES W

CSTAPR...CE

EMBOUIT A ROTULE
BALL-JOINT END WITH GREASE NIPPLE



Code Code	ØP	Z	S	D1 max	S1 max	L	F	LF min	FC (kN)	kg
*CSTAPR612C	12	38	12	33.0	11.0	54	M12x1,25	17	10.8	0,11
CSTAPR616C	16	44	16	41.0	14.0	64	M14x1,5	19	17.6	0,20
CSTAPR620C	20	52	20	48.0	17.5	77	M16x1,5	23	30.0	0,35
CSTAPR625C	25	65	25	59.5	22.0	96	M20x1,5	29	48.0	0,62
CSTAPR632C	32	80	32	72.0	28.0	118	M27x2	37	67.0	1,15
CSTAPR640C	40	97	40	91.5	34.0	146	M33x2	46	100.0	2,18
CSTAPR650C	50	120	50	110.5	42.0	179	M42x2	57	156.0	3,96
CSTAPR663C	63	140	63	137.5	53.5	213	M48x2	64	255.0	6,80
CSTAPR670C (**) (A)	70	160	70	158.0	58.0	245	M56x2	76	315.0	9,60
CSTAPR680C (**) (A)	80	180	80	171.5	68.0	270	M64x3	86	400.0	13,00
CSTAPR690C (**) (A)	90	195	90	187.0	73.0	296	M72x3	91	490.0	19,10
CSTAPR695C (**) (A)	100	210	100	212.5	85.5	322	M80x3	96	610.0	25,00
CSTAPR696C (**) (A)	110	235	110	237.0	89.0	364	M90x3	106	655.0	32,00
CSTAPR697C (**) (A)	125	260	125	268.0	105.0	406,5	M100x3	113	950.0	46,00

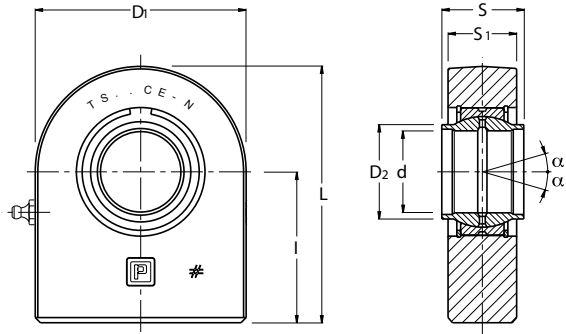
FC = CHARGE DYN. MAXI - MAX DYNAMIC LOAD

(A) = SANS NORME - OUT OF RULE

* = SANS GRAISSEUR - WITHOUT GREASE NIPPLE

MATERIEL : ACIER DIN 24338 - ISO 6982 - ISO 8132 - (**) = FONTE SPHEROIDALE

MATERIAL : STEEL DIN 24338 - ISO 6982 - ISO 8132 - (**) = NODULAR CAST IRON



TS...CE-N
(GN...LO)

TERMINALI A SNODO
SNODO SFERICO ISO 12240-1 SERIE W
RILUBRIFICABILI
ACCOPIAMENTO: ACCIAIO SU ACCIAIO

ROD ENDS
SPHERICAL BEARING ISO 12240-1 SERIES W
WITH GREASE NIPPLE
COUPLING: STEEL/STEEL



SIGLA (*) ARTICLE (*)	d	TOLLERANZE TOLERANCES		S	D2	I	D1	S1	L	FATTORI DI CARICO LIMITE LOAD FACTORS		GIUOCO SNODO RADIALE RADIAL CLEARANCE	ANGOLO DI OSCILLAZIONE α SWINGING ANGLE α	PESO IN Kg. WEIGHT Kg.		
		d	S							Dinamico Dynamic	C				Statico Static	Co
		mm.								KN					mm.	α°
TS 20 CE-N	20	0 ÷ +0.021	0 ÷ -0.21	20	25	38	50	19	63	30	74	0.040 - 0.082	4	0.36		
TS 25 CE-N	25	0 ÷ +0.021	0 ÷ -0.21	25	30.5	45	55	23	72.5	48	95	0.050 - 0.100	4	0.54		
TS 32 CE-N	32	0 ÷ +0.025	0 ÷ -0.25	32	38	65	70	27	103	62.5	168	0.052 - 0.100	4	1.12		
TS 40 CE-N	40	0 ÷ +0.025	0 ÷ -0.25	40	46	69	100	35	119	100	268	0.060 - 0.120	4	2.50		
TS 50 CE-N	50	0 ÷ +0.025	0 ÷ -0.25	50	57	88	123	40	149.5	156	362	0.060 - 0.120	4	4.60		
TS 63 CE-N	63	0 ÷ +0.030	0 ÷ -0.30	63	71.5	107	145	50	178	248	570	0.072 - 0.142	4	9.30		
TS 70 CE-N	70	0 ÷ +0.030	0 ÷ -0.30	70	79	115	164	55	197	315	800	0.072 - 0.142	4	11.25		
TS 80 CE-N	80	0 ÷ +0.030	0 ÷ -0.30	80	91	141	180	60	231	400	874	0.072 - 0.142	4	15.75		
TS 90 CE-N(1)	90	0 ÷ +0.035	0 ÷ -0.35	90	99	150	226	65	263	490	1045	0.072 - 0.165	4	24.00		
TS 100 CE-N(1)	100	0 ÷ +0.035	0 ÷ -0.35	100	113	170	250	70	295	610	1330	0.085 - 0.165	4	33.95		
TS 110 CE-N(1)	110	0 ÷ +0.035	0 ÷ -0.35	110	124	185	295	80	332.5	655	1490	0.085 - 0.165	4	49.00		
TS 125 CE-N(1)	125	0 ÷ +0.040	0 ÷ -0.40	125	138	210	360	90	390	950	2200	0.085 - 0.165	4	81.00		

- (1) PANTOGRAFATI
(2) SU RICHIESTA TS160CEN - TS200CEN

- (1) PROFILE PLATE
(2) ON REQUEST TS160CEN - TS200CEN