

RUOTE E GRUPPI RUOTA
WHEELS AND WHEELS ASSEMBLY

SIAG s.p.A.

Via E. Alessandrini, 7
Cemusco sul Naviglio
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(MILANO) ITALIA

Capitale EURO 520.000 pari a
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C.C.I.A.A. 905982 MILANO
Partita IVA 02551620152

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Wheel assemblies completely assembled, ready for the start-up.

Each assembly will be composed as follows:
wheel made of forged steel hardened and tempered, according to our standard processing, here inclosed, hardness HB 400+450, depth 5+6 mm.
Drive and idle shaft made of steel changed 39NiCrMo3 TF UNI 7845; if required the protusion of the driven shaft can be Pillow blocks and covers made of steel Fe430B UNI 7070.
Floating roller bearings, European series.
Ancillary and everything necessary for a normal assembly.
Each wheel assembly will be complete and ready to be installed. The first filling of lubricants is included.

Quality control program

Siag wheels will be checked and certificated by our staff (2° level NDT), merely skilled for this function.
Our wheels will be certified as follows:
Material certificate of origin
Harness check and certificate on the tread surface
LP check and certificate on the tread
Certificate of conformity of the wheel assembly
Upon request and with extra amount to be calculated, we will carry out other checks.

Painting

Each wheel assembly will be painted, observing the following standard cycle:
careful mechanical brushing and washing by diluent for the mechanical parts two priming coat with blue paint Ral 5010 total thickness 60+70 micron.

Guarantee

Siag products are covered by integral guarantee, material and labour, for a period of 12 months from the start-up.
During this period we will repair and/or replace, ex our works, those parts showing defects of material or workmanship, thus depending on a correct scaling (if carried out by us), a right alignment and on a normal condition of the tracks.

Gruppi ruota completamente montati, pronti per la posa in opera.

Ciascun gruppo ruota sarà così costituito:
corpo ruota in acciaio fucinato, bonificato e temprato secondo nostri cicli standard, durezza HB 400+450, profondità 5+6 mm.
Albero motore e albero folle in acciaio 39NiCrMo3 TF UNI 7845; in caso di necessità la sporgenza d'albero, potrà essere modificata in funzione delle Vostre esigenze.
Supporti e coperchietti in acciaio Fe430B UNI 7070.
Cuscinetti a rulli oscillanti, serie europea.
Minuteria e quanto occorrente per un normale montaggio.
Ciascun gruppo ruota dovrà intendersi completo e pronto per il montaggio, compresi i lubrificanti di primo riempimento.

Certificazioni e collaudi.

Le ruote Siag saranno controllate e certificate da nostro personale qualificato 2° livello CND preposto unicamente a tale mansione.
Le nostre ruote saranno così certificate:
Certificato AC di origine
Controllo e certificazione prove di durezza sulla fascia di rotolamento
Controllo e certificazione LP sulla fascia di rotolamento
Certificati di conformità del gruppo ruota
A richiesta e con supplementi da quantificarsi, potranno essere eseguiti eventuali altri controlli.

Verniciatura

Ciascun gruppo ruota verrà reso verniciato secondo nostro ciclo standard seguente:
previa accurata spazzolatura meccanica due mani di vernice protettiva a smalto blu Ral 5010, spessore totale 60+70 micron.

Garanzia

Dodici mesi dalla messa in funzione.
Durante tale periodo sostituiremo, franco nostro stabilimento, quelle parti che dovessero presentare difetti di materiale o lavorazione subordinate al corretto dimensionamento delle ruote e ad un normale stato delle vie di corsa.

This table is in compliance with UNI 7670 March 1988 regarding the "Medium capacity of the wheel body" according the here below formula:

La presente tabella è stata eseguita secondo le indicazioni della UNI 7670 del Marzo 1988, riguardante la "Portata media del corpo ruota", mediante la seguente formula:

$$C_m = \frac{2P_{max} + P_{min}}{3} \leq b \times D \times p \times C_1 \times C_2$$

where:

- b = useful rail length
- D = sliding contact diameter
- C1 = speeding coefficient
- C2 = coefficient depending from mechanism classification (work hours)
- p = allowable pressure according with material characteristic

dove:

- b = larghezza utile rotaia
- D = diametro di contatto della ruota
- C1 = coefficiente di velocità
- C2 = coefficiente di classe del meccanismo (ore di funzionamento)
- p = pressione ammissibile secondo tipo di materiale

In order to simplify we can declare:

- (CR 60 kg/mm²) Spheroidal graphite, multiply the schedule for 0,77.
- (CR 70 kg/mm²) C45 TF, multiply the schedule for 0,9.
- (CR 80 kg/mm²) 39NiCrMo3, 40NiCrMo7, multiply the schedule for 1.

Per semplificare possiamo dichiarare:

- (CR 60 kg/mm²) Ghisa sferoidale, moltiplicare le tabelle per 0,77.
- (CR 70 kg/mm²) C45 TF, moltiplicare le tabelle per 0,9.
- (CR 80 kg/mm²) 39NiCrMo3, 40NiCrMo7, moltiplicare le tabelle per 1.

The induction hardening doesn't increase the specific pressure but act on the duration of the

La tempra ad induzione non incrementa la pressione ma agisce sulla durata della ruota.

RUOTA / ROTAIA WHEEL / RAIL	CLASSE UNI-ISO CLASS		VELOCITA' (m/min) SPEED												
			10	16	20	25	31,5	40	50	63	80	100	125	160	200
Ø200x90 A 45 (b=37)	M2	M3	6,51	6,15	5,96	5,79	5,60	5,42	5,18	4,89	4,59	4,29	3,93		
	M4	M5	5,81	5,49	5,32	5,17	5,00	4,84	4,63	4,37	4,10	3,83	3,51		
	M6		5,23	4,94	4,79	4,65	4,50	4,35	4,17	3,93	3,69	3,45	3,16		
	M7	M8	4,65	4,39	4,25	4,13	4,00	3,87	3,70	3,50	3,28	3,06	2,81		
Ø250x90 A 45 (b=37)	M2	M3	8,27	7,91	7,67	7,46	7,22	7,01	6,77	6,47	6,11	5,74	5,36	4,93	
	M4	M5	7,39	7,06	6,85	6,66	6,45	6,26	6,05	5,78	5,46	5,13	4,79	4,40	
	M6		6,65	6,35	6,16	5,99	5,80	5,63	5,44	5,20	4,91	4,62	4,31	3,96	
	M7	M8	5,91	5,65	5,48	5,33	5,16	5,01	4,84	4,62	4,37	4,10	3,83	3,53	
Ø315x120 A 55 (b=37)	M2	M3	12,91	12,45	12,11	11,76	11,43	11,09	10,74	10,39	9,93	9,37	8,79	8,22	7,55
	M4	M5	11,53	11,12	10,81	10,50	10,21	9,90	9,59	9,28	8,87	8,37	7,85	7,34	6,74
	M6		10,38	10,01	9,37	9,45	9,19	8,91	8,63	8,35	7,98	7,53	7,06	6,61	6,07
	M7	M8	9,22	8,90	8,65	8,40	8,17	7,92	7,67	7,42	7,10	6,70	6,28	5,87	5,39
Ø315x140 A 75 (b=59)	M2	M3	16,93	16,34	15,88	15,43	14,53	14,89	14,53	14,08	16,63	13,02	12,28	11,53	10,78
	M4	M5	15,12	14,59	14,18	13,78	13,38	12,97	12,57	12,17	11,63	10,97	10,30	9,63	8,83
	M6		13,61	13,13	12,76	12,40	12,04	11,67	11,31	10,95	10,47	9,87	9,27	8,67	7,95
	M7	M8	12,10	11,67	11,34	11,02	10,70	10,37	10,05	9,74	9,30	8,78	8,24	7,70	7,06
Ø400x140 A 75 (b=59)	M2	M3	21,68	21,12	20,73	20,16	19,60	19,01	18,46	17,89	17,33	16,55	15,61	14,64	13,70
	M4	M5	19,36	18,86	18,51	18,00	17,50	16,97	16,48	15,97	15,47	14,78	13,94	13,07	12,23
	M6		17,42	16,97	16,66	16,20	15,75	15,27	14,83	14,37	13,92	13,30	12,54	11,76	11,01
	M7	M8	15,49	15,09	14,81	14,40	14,00	13,57	13,18	12,77	12,37	11,82	11,15	10,45	9,78



Sp.A.

GRUPPI RUOTA

WHEEL ASSEMBLY



A/3

RUOTA / ROTAIA WHEEL / RAIL	CLASSE UNI-ISO CLASS		VELOCITA' (m/min) SPEED													
	CL		10	16	20	25	31,5	40	50	63	80	100	125	160	200	250
Ø500x140 A 75 (b=59)	M2	M3	27,34	26,87	26,40	25,92	25,21	24,49	23,79	23,07	22,37	21,64	20,69	19,51	18,31	
	M4	M5	24,91	23,99	23,57	23,14	22,51	21,87	21,24	20,60	19,97	19,32	18,47	17,42	16,35	
	M6		21,97	21,59	21,21	20,83	20,26	19,68	19,12	18,54	17,97	17,38	16,62	15,68	14,71	
	M7	M8	19,53	19,19	18,85	18,51	18,01	17,50	16,99	16,48	15,98	15,45	14,77	13,93	13,08	
Ø500x190 A 100 (b=80)	M2	M3	37,09	36,44	35,79	35,14	34,18	33,22	32,26	31,29	30,31	29,34	28,07	26,45	24,84	
	M4	M5	33,12	32,54	31,96	31,38	30,52	29,66	28,80	27,94	27,06	26,20	25,06	23,62	22,18	
	M6		29,81	29,28	28,76	28,24	27,47	26,69	25,92	25,14	24,35	23,58	22,55	21,26	19,96	
	M7	M8	26,50	26,03	25,57	25,10	24,42	23,73	23,04	22,35	21,65	20,96	20,05	18,90	17,74	
Ø630x140 A 75 (b=59)	M2	M3	35,07	34,17	33,87	33,26	32,67	31,76	30,87	29,96	29,07	28,17	27,27	26,07	24,58	
	M4	M5	31,31	30,51	30,24	29,70	29,17	28,36	27,56	26,75	25,96	25,15	24,35	23,28	21,95	
	M6		28,18	27,46	27,22	26,73	26,25	25,52	24,80	24,07	23,36	22,63	21,91	20,95	19,75	
	M7	M8	25,05	24,41	24,19	23,76	23,33	22,69	22,05	21,40	20,77	20,12	19,48	18,62	17,56	
Ø630x190 A 100 (b=80) (A 120)	M2	M3	47,54	46,32	45,92	45,11	44,30	43,09	41,85	40,63	39,42	38,20	36,98	35,35	33,92	
	M4	M5	42,45	41,36	41,00	40,28	39,55	38,47	37,37	36,28	35,20	34,11	33,02	31,56	29,75	
	M6		38,20	37,22	36,90	36,25	35,60	34,62	33,63	32,65	31,68	30,70	29,72	28,40	26,77	
	M7	M8	33,96	33,09	32,80	32,22	31,64	30,78	29,90	29,02	28,16	27,29	26,41	25,25	23,80	
Ø630x210 A 120 (b=100)	M2	M3	59,43	57,90	57,40	56,39	55,37	53,85	52,33	50,79	49,28	47,75	46,22	44,19	41,64	
	M4	M5	53,06	51,70	51,25	50,35	49,44	48,08	46,72	45,35	44,00	42,63	41,27	39,46	37,18	
	M6		47,75	46,53	46,12	45,31	44,50	43,27	42,05	40,81	39,60	38,37	37,14	35,51	33,46	
	M7	M8	42,45	41,36	41,00	40,28	39,55	38,46	37,37	36,28	35,20	34,10	33,02	30,80	28,74	
Ø710x140 A 75 (b=59)	M2	M3		38,50	38,17	37,82	37,15	36,14	35,13	34,46	33,43	32,42	31,07	30,06	28,37	
	M4	M5		34,38	34,08	33,77	33,17	32,27	31,37	30,77	29,86	28,95	27,74	26,84	25,33	
	M6			30,94	30,67	30,39	29,85	29,04	28,23	27,69	26,86	26,05	24,97	24,16	22,80	
	M7	M8		27,50	27,26	27,02	26,54	25,82	25,10	24,62	23,88	23,16	22,19	21,47	20,26	
Ø710x190 A 100 (b=80) (A 120)	M2	M3		52,21	51,75	51,30	50,39	49,00	47,63	46,71	45,35	43,96	42,13	40,77	38,47	
	M4	M5		46,62	46,21	45,80	44,99	43,75	42,53	41,71	40,49	39,25	37,62	36,40	34,35	
	M6			41,96	41,59	41,22	40,49	39,37	38,28	37,54	36,44	35,32	33,86	32,06	30,01	
	M7	M8		37,30	36,97	36,64	35,99	35,00	34,02	33,37	32,39	31,40	30,10	29,11	27,48	
Ø710x210 A 120 (b=100)	M2	M3		65,27	64,70	64,12	62,97	61,25	59,54	58,38	56,67	54,96	52,67	50,95	48,09	
	M4	M5		58,28	57,77	57,25	56,22	54,69	53,16	52,13	50,60	49,07	47,03	45,49	42,94	
	M6			52,45	51,99	51,52	50,60	49,22	47,84	46,92	45,54	44,16	42,33	40,94	38,64	
	M7	M8		46,62	46,22	45,80	44,97	43,75	42,53	41,70	40,48	39,25	37,62	36,39	34,35	
Ø800x140 A 75 (b=59)	M2	M3			43,77	43,39	43,01	42,25	41,50	40,34	39,02	38,06	36,91	35,78	34,63	33,11
	M4	M5			39,08	38,74	38,40	37,72	37,04	36,02	35,00	33,98	32,96	31,95	30,92	29,56
	M6				35,17	34,86	34,56	33,95	33,33	32,42	31,50	30,58	29,66	28,75	27,83	26,60
	M7	M8			31,26	30,99	30,72	30,17	29,63	28,81	28,00	27,18	26,37	25,56	24,74	23,65
Ø800x190 A 100 (b=80) (A 120)	M2	M3		59,34	58,83	58,32	57,29	56,24	54,70	53,14	51,61	50,05	48,52	46,96	44,90	42,32
	M4	M5		52,98	52,53	52,07	51,15	50,22	48,54	47,45	46,08	44,69	43,32	41,93	40,09	37,79
	M6			47,68	47,28	46,86	46,03	45,20	43,95	42,70	41,47	40,22	38,99	37,74	36,08	34,01
	M7	M8		42,38	42,02	41,65	40,92	40,17	39,07	37,96	36,86	35,75	34,65	33,54	32,07	30,23
Ø800x210 A 120 (b=100)	M2	M3		74,19	73,54	72,89	71,61	70,31	68,39	66,44	64,51	62,56	60,64	58,71	56,11	52,88
	M4	M5		66,24	65,66	65,08	63,94	62,78	61,06	59,32	57,60	55,86	54,14	52,42	50,10	47,22
	M6			59,61	59,09	58,57	57,54	56,50	54,95	53,39	51,84	50,27	48,72	47,18	45,09	42,50
	M7	M8		52,99	52,53	52,06	51,15	50,22	48,85	47,45	46,08	44,69	43,31	41,93	40,08	37,77
Ø1000x190 A 100 (b=80) (A 120)	M2	M3		75,49	74,19	73,54	72,89	71,61	70,31	68,39	66,44	64,51	62,56	60,64	58,71	56,11
	M4	M5		67,40	66,24	65,66	65,08	63,94	62,78	61,06	59,32	57,60	55,86	54,14	52,42	50,10
	M6			60,66	59,61	59,09	58,57	57,54	56,50	54,95	53,39	51,84	50,27	48,72	47,18	45,09
	M7	M8		53,92	52,99	52,53	52,06	51,15	50,22	48,85	47,45	46,08	44,69	43,31	41,93	40,08
Ø1000x210 A 120 (b=100)	M2	M3		94,35	92,73	91,93	91,12	89,51	87,90	85,48	83,06	80,64	78,22	75,80	73,38	70,16
	M4	M5		84,24	82,80	82,08	81,36	79,92	78,48	76,32	74,16	72,00	69,84	67,68	65,52	62,64
	M6			75,81	74,52	73,87	73,22	71,93	70,63	68,69	66,74	64,80	62,86	60,91	58,97	56,37
	M7	M8		67,39	66,24	65,66	65,69	63,93	62,78	61,05	59,33	57,60	55,87	54,14	52,41	50,11

RUOTA / ROTAIA WHEEL / RAIL	CLASSE UNI-ISO CLASS		VELOCITA' (m/min) SPEED													
	CL		10	16	20	25	31,5	40	50	63	80	100	125	160	200	250
Ø1120x190 A 100 (b=80) (A 120)	M2	M3			83,81	82,36	81,65	80,93	79,47	77,31	75,14	73,70	71,52	69,36	66,47	64,31
	M4	M5			74,83	73,54	72,90	72,26	70,96	69,03	67,09	65,80	63,86	61,93	59,35	57,42
	M6				67,35	66,19	65,61	65,03	63,86	62,13	60,38	59,22	57,47	55,74	53,41	51,68
	M7	M8			59,86	58,83	58,32	57,81	56,77	55,22	53,67	52,64	51,09	49,54	47,48	45,93
Ø1120x210 A 120 (b=100)	M2	M3			104,7	102,9	102,5	101,1	99,34	96,63	93,93	92,12	89,41	86,70	83,09	80,38
	M4	M5			93,53	91,93	91,12	90,31	88,70	86,28	83,87	82,25	79,83	77,41	74,19	71,77
	M6				84,18	82,74	82,01	81,28	79,83	77,65	75,48	74,02	71,85	69,67	66,77	64,59
	M7	M8			74,82	73,54	72,89	72,25	70,96	69,02	67,09	65,80	63,86	61,92	59,35	57,41
Ø1120x210 A 120 (b=100)	M2	M3			117,9	115,9	114,9	113,9	111,9	109,9	106,9	103,9	100,8	97,77	94,75	91,73
	M4	M5			105,3	103,5	102,6	101,7	99,90	98,10	95,40	92,70	90,00	87,30	84,60	81,90
	M6				94,77	93,15	92,34	91,53	89,91	88,29	85,86	83,43	81,00	78,57	76,14	73,71
	M7	M8			84,24	82,80	82,08	81,36	79,92	78,48	76,32	74,16	72,00	69,84	67,68	65,52

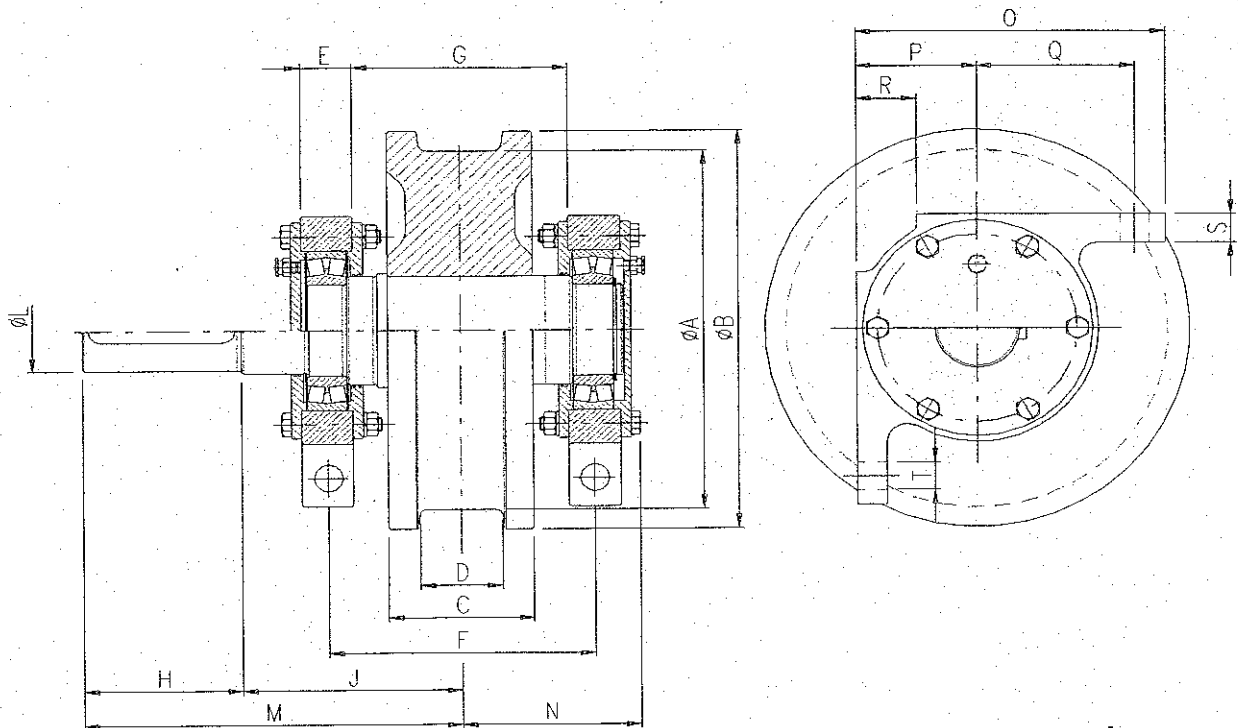
Cycle of the mechanical processing and thermic treatments.

- Normalizing of the row forged steel
- Rolling of the forged steel by turning.
- Ultrasonic inspection (if required)
- Roughing-out a wheel with about 2mm stock
- Hardening and tempering of the wheel
- Ultrasonic inspection (if required).
- Pre-finishing turning
- Preheating in the furnace at about 200°÷220° C, execution of the hardening at an average frequency, slow tempering (20°÷25° C/h), with temperatures changing according to the desired values Brinell hardness as per your requirements.
- Finishing turning taking particular care of the concentricity and the squareness among the hole, a side of the wheel and the rope face.
- Shaft keying by means of cooling with liquid azote.
- Complete erection of the assembly.

Ciclo delle lavorazioni meccaniche e trattamenti termici.

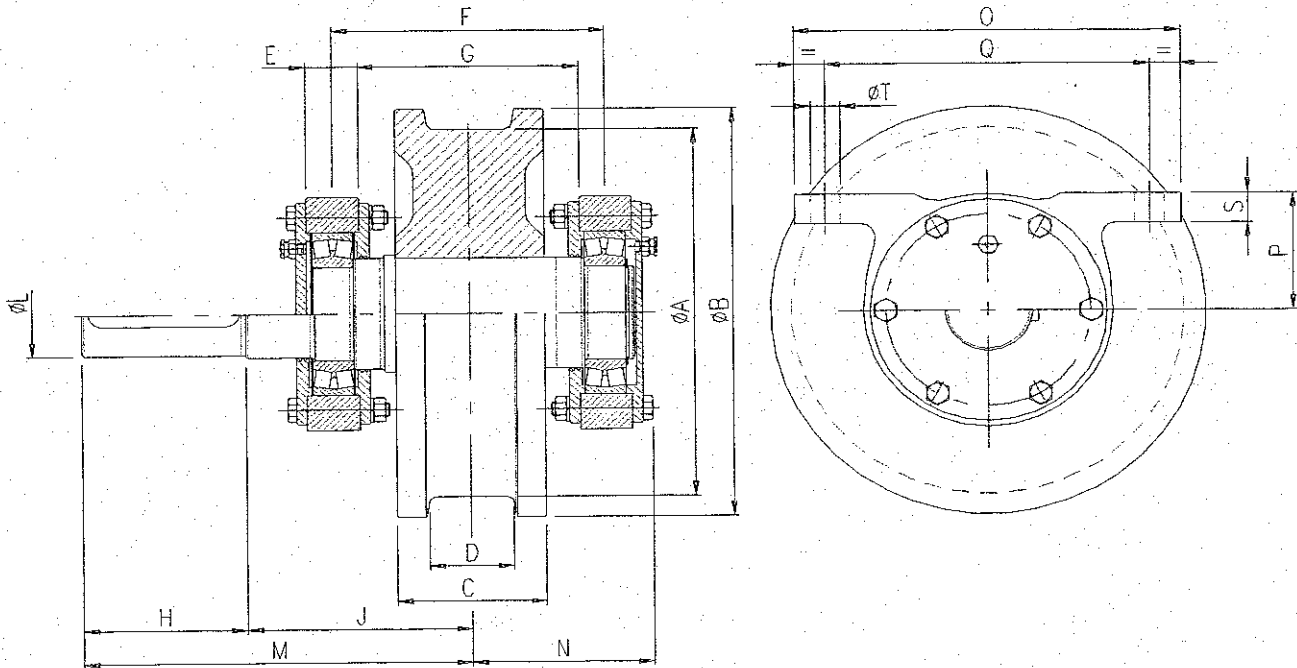
- Normalizzazione del fucinato grezzo
- Cilindratura del fucinato
- Controllo U.S. (se richiesto)
- Sgrossatura ruota (con ~2mm di sovravello)
- Bonifica della ruota (tempra e rinvenimento)
- Controllo U.S. (se richiesto)
- Tomitura di prefinitura
- Preriscaldamento in forno a ~200°÷220° C, esecuzione della tempra a media frequenza, rinvenimento lento (20°÷25° C/h) con temperature variabili in funzione dei valori desiderati. Durezza Brinell richiesta.
- Tomitura di finitura, curando particolarmente la concentricità e l'ortogonalità fra il foro e un fianco della ruota e la fascia di rotolamento.
- Calettamento dell'albero mediante raffreddamento dello stesso in azoto liquido.
- Montaggio completo del gruppo.

SERIE SERIES	CORPO RUOTA BODY WHEEL	BONIFICA HARDENING AND TEMP.	TEMPRA HARDENING	ASSE AXIS	SUPPORTI SUPPORTS	COPERCHI E DISTANZ. COVER AND SPACER
RSP	42CrMo4	HB 280±10	HB 450±25	39NiCrMo3	Fe430B	Fe430B
RSR						
RSF						
RSC						
RSQ	42CrMo4-40NiCrMo7			FeG52		
RSI	42CrMo4					
RC	C45-42CrMo4	HB 260±20		C45		
RCE	C45					
RS	C45-42CrMo4					
RUD	C45					



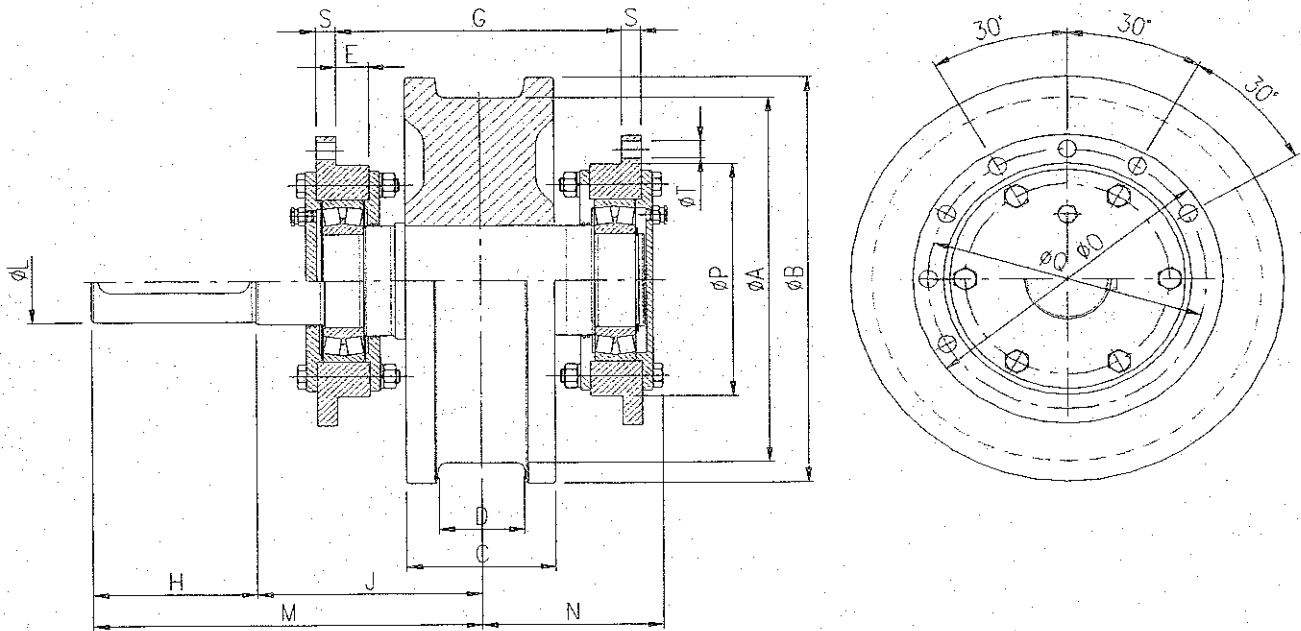
L-H-D = quote modificabili secondo esigenze
changeable dimension

A x C	ROTAIA RAIL	B	D	E	F	G	H	J	L k6	M	N	O	P	Q	R	S	T	PESO WEIGHT	CUSCINETTO BEARING
200 x 90	A 45	230	56	32	190	158	80	150	45	230	135	180	70	90	35	20	17	75	22210
250 x 90	A 45	280		42		148	130		55	280	140	225	90	110	45		22	85	22213
315 x 120	A 55		68		220	178		180	70	310	156		100	130	50	25		150	22216
315 x 140	A 75	350		52	240	188	150	190	80	340	170	285	115	145	55		24	170	22218
400 x 140	A 75	440	88		250			200	90	380	180	310	125	155	60	30	26	250	22220
500 x 140	A 75			62	260	198		210	100	390	190							300	22222
500 x 190	A 100	540	126-140	82	330	248		250		430	235	340	135	175	65		28	280	23222
630 x 140	A 75		88	72	270	198	185	225	120	410	200	375	150	190	70			580	22226
630 x 190	A 100	680	126-140	82	330	248		250		480	235							700	22228
630 x 210	A 120		150	102	370	268		280		510	265	395	160	200	80	40	32	750	23228
710 x 140	A 75		88		290	208		230		460	215							700	22228
710 x 190	A 100	760	126-140	82	330	248		250	130	480	235							800	22230
710 x 210	A 120		150	110	380	270		285		515	275	420	175	210	85			860	23230
800 x 140	A 75		88	82	290	208		230		460	215							900	22230
800 x 190	A 100	850	126-140	92	340	248		260		490	245							1000	23232
800 x 210	A 120			114	380	266	230	290		520	275	470	190	240	95			1050	23232
900 x 140	A 75		88	92	320	228		250		480	235							1000	22232
900 x 190	A 100	950	126-140	102	360	258		280		510	260							1200	22234
900 x 210	A 120		150	120	400	280		310	150	540	290	490	200	250	100			1300	23234
1000 x 140	A 75		88		320	218		250		480	240							1200	22234
1000 x 190	A 100	1050	126-140	102	360	258		270		500	260	520	210	260	105	45	38	1400	22236
1000 x 210	A 120		150	120	400	280		310		540	290							1600	23236
1120 x 190	A 100	1170	126-140	102	380	278		295	160	555	275	540	225	270	110			1900	22238
1120 x 190	A 120		150	130	430	300		335		595	315							2150	23238
1250 x 190	A 100	1300	126-140	110	390	280	260	300	180	560	285	570	240	290	120			2400	22240
1250 x 210	A 120		150	140	440	300		340		600	320							2600	23240



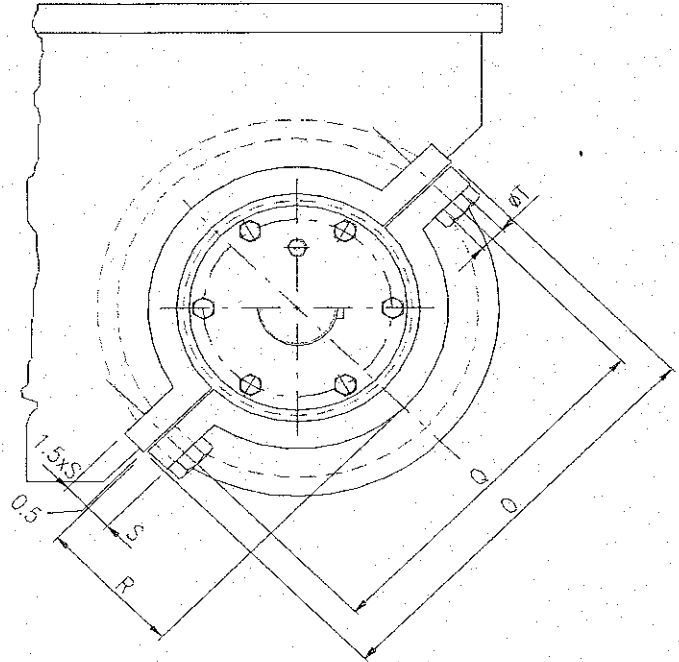
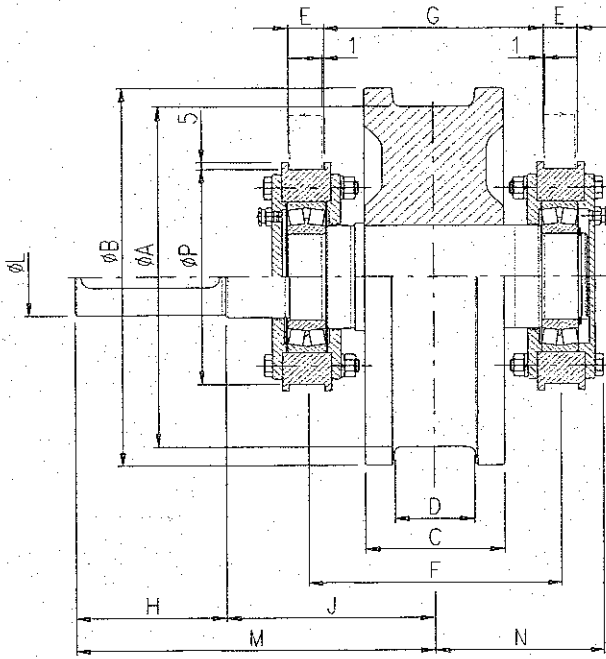
L-H-D = quote modificabili secondo esigenze
changeable dimension

A x C	ROTAIA RAIL	B	D	E	F	G	H	J	L k6	M	N	O	P	Q	S	T	PESO WEIGHT	CUSCINETTO BEARING
200 x 90	A 45	230	55	32	190	158	80	150	45	230	135	220	70	180	20	17	75	22210
250 x 90	A 45	280		42		148			55	280	140	270	90	220		22	85	22213
315 x 120	A 55		68		220	178	130		180	70	310	155	310	100	260	25	150	22216
315 x 140		350		52	240	188	150	190	80	340	170	340	115	290		24	170	22218
400 x 140	A 75	440	88		250	198		200	90	380	180	370	125	310	30	26	250	22220
500 x 140				62	260		180	210	100	390	190		135	350		28	300	22222
500 x 190	A 100	540	126-140	82	330	248		250		430	235	410	135	350			280	23222
630 x 140	A 75		88	72	270	198	185	225	120	410	200	450	150	380			590	22226
630 x 190	A 100	680	126-140	82	330	248		250		480	235						700	22228
630 x 210	A 120		150	102	370	268		280		510	265	470	160	400	40		750	23228
710 x 140	A 75		88	82	290	208		230	130	460	215					32	700	22228
710 x 190	A 100	760	126-140	82	330	248		250		480	235						800	22230
710 x 210	A 120		150	110	380	270		285		515	275	490	175	420			860	23230
800 x 140	A 75		88	82	290	208		230		460	215						900	22230
800 x 190	A 100	850	126-140	92	340	248		260		490	245						1000	23232
800 x 210	A 120		150	114	380	266	230	290		520	275	560	190	480			1050	23232
900 x 140	A 75		88	92	320	228		250		480	235						1000	22232
900 x 190	A 100	950	126-140	102	360	258		280		510	260						1200	22234
900 x 210	A 120		150	120	400	280		310	150	540	290	580	200	500			1300	23234
1000 x 140	A 75		88		320	218		250		480	240						1200	22234
1000 x 190	A 100	1050	126-140	102	360	258		270		500	260						1400	22236
1000 x 210	A 120		150	120	400	280		310		540	290	610	215	530	45	38	1600	23236
1120 x 190	A 100		126-140	102	380	278		295	160	555	275						1900	22238
1120 x 190	A 120	1170	150	130	430	300		335		595	315	630	225	550			2150	23238
1250 x 190	A 100		126-140	110	390	280	260	300		560	285	660	240	580			2400	22240
1250 x 210	A 120	1300	150	140	440	300		340	180	600	320						2600	23240



L-H-D = quote modificabili secondo esigenze
changeable dimension

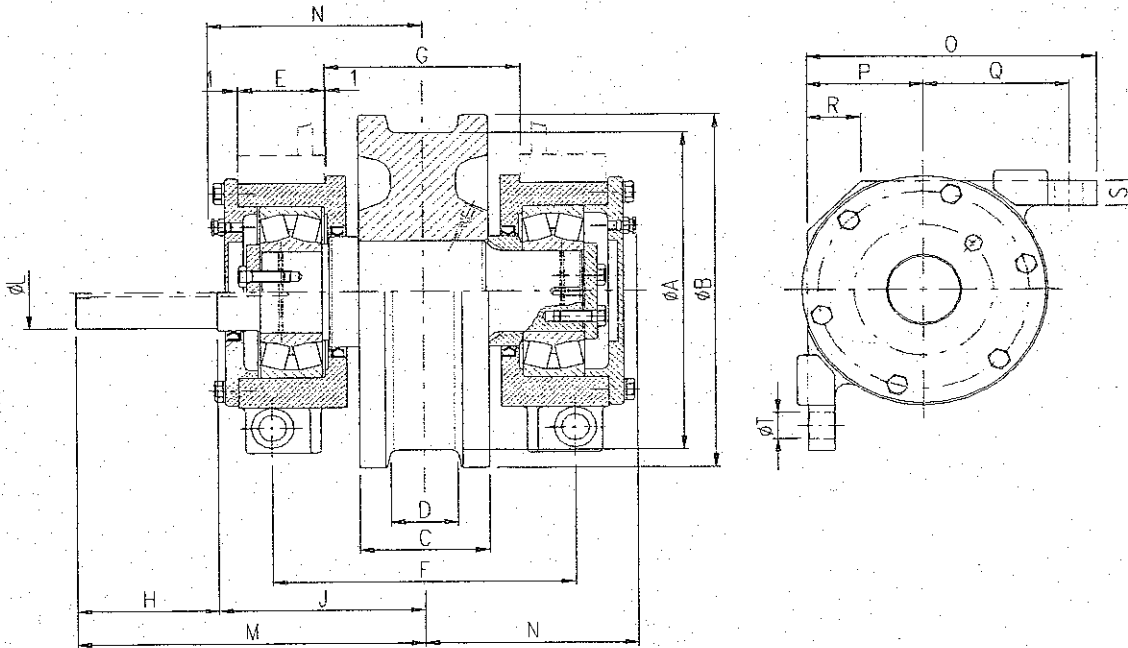
A x C	ROTAIA RAIL	B	D	E	F	G	H	J	L kg	M	N	O	P	S	T	PESO WEIGHT	CUSCINETTO BEARING
200 x 90	A 45	230	55	21	200	200	80	150	45	230	135	190	140	11	21	75	22210
250 x 90	A 45	280		26			130		55	280	140	230	180		26	85	22213
315 x 120	A 55		68		230	230		180	70	310	155	250	200			150	22216
315 x 140		350		36	260	260	150	190	80	340	170	280	230	16	36	170	22218
400 x 140	A 75	440	88		270	270		200	90	380	180	310	250			250	22220
500 x 140				41	280	280	180	210		390	190				41	300	22222
500 x 190	A 100	540		61	370	370		250	100	430	235	330	270	21	61	280	23222
630 x 140	A 75		88	46	290	290	185	225	120	410	200	375	300	26	46	580	22226
630 x 190	A 100	680	126-140	56	360	360		250		480	235				56	700	22228
630 x 210	A 120		150	70	410	410		280		510	265	395	320	30	70	750	23228
710 x 140	A 75		88	56	320	320		230	130	460	215			26	56	700	22228
710 x 190	A 100	760	126-140	56	360	360		250		480	235					800	22230
710 x 210	A 120		150	80	430	430		285		515	275	425	350	30	80	860	23230
800 x 140	A 75		88	56	320	320		230		460	215			26	56	900	22230
800 x 190	A 100	850	126-140	61	370	370	230	260		490	245			31	61	1000	23232
800 x 210	A 120		150	82	430	430		290		520	275	475	360	32	82	1050	23232
900 x 140	A 75		88	61	350	350		250		480	235			31	61	1000	22232
900 x 190	A 100	950	126-140	71	400	400		280	150	510	260			31	71	1200	22234
900 x 210	A 120		150	90	460	460		310		540	290	495	400	30	90	1300	23234
1000 x 140	A 75		88	71	350	350		250		480	240			31	71	1200	22234
1000 x 190	A 100	1050	126-140	71	400	400		270		500	260					1400	22236
1000 x 210	A 120		150	90	460	460		310		540	290	525	425	30	90	1600	23236
1120 x 190	A 100	1170	126-140	71	420	420	260	295	160	555	275	550	450	31	71	1900	22238
1120 x 190	A 120		150	90	500	500		335		595	315			40	90	2150	23238
1250 x 190	A 100	1300	126-140	80	440	440		300	180	560	285	580	480	30	80	2400	22240
1250 x 210	A 120		150	100	500	500		340		600	320			40	100	2600	23240



L-H-D = quote modificabili secondo esigenze
changeable dimension

A x C	ROTAIA RAIL	B	D	E	F	G	H	J	L Kg	M	N	O	P	Q	R	S	T	PESO WEIGHT	CUSCINETTO BEARING
200 x 90	A 45	230	55	25	190	215	80	150	45	230	135	240	140	210	85	15	13	75	22210
250 x 90	A 45	280		30		220			55	280	140	295	180	260	110	20	15	85	22213
315 x 120	A 55		68		220	250	130	180	70	310	155	315	200	280	120			150	22216
315 x 140	A 75	350		40	240	280	150	190	80	340	170	350	230	315	137	25	17	170	22218
400 x 140	A 75	440	88		250	290		200	90	380	180	370	250	335	147			250	22220
500 x 140	A 75			50	260	310	180	210	100	390	190							300	22222
500 x 190	A 100	540	126-140	70	330	400		250		430	235	410	270	370	157	30		280	23222
630 x 140	A 75		88	60	270	330	185	225	120	410	200	440	300	400	172			580	22226
630 x 190	A 100	680	126-140	70	330	400		250		480	235							700	22228
630 x 210	A 120		150	90	370	460		280		510	265	460	320	420	182		21	750	23228
710 x 140	A 75		88	60	290	350		230		460	215							700	22228
710 x 190	A 100	760	126-140	70	330	390		250	130	480	235				200	35		800	22230
710 x 210	A 120		150	90	380	470		285		515	275	500	350	460				860	23230
800 x 140	A 75		88	60	290	350		230		460	215							900	22230
800 x 190	A 100	850	126-140	70	340	410		260		490	245				215			1000	23232
800 x 210	A 120		95	80	380	475	230	290		520	275	550	380	500				1050	23232
900 x 140	A 75		88	70	320	390		250		480	235							1000	22232
900 x 190	A 100	950	126-140	80	360	440		280	150	510	260				225			1200	22234
900 x 210	A 120		150	100	400	500		310		540	290	570	400	520				1300	23234
1000 x 140	A 75		88		320	400		250		480	240							1200	22234
1000 x 190	A 100	1050	126-140	80	360	440		270		500	260				245	40	25	1400	22236
1000 x 210	A 120		150	100	400	500		310		540	290	610	430	560				1600	23236
1120 x 190	A 100	1170	126-140	80	380	460		295	160	555	275	630	450	580				1900	22238
1120 x 190	A 120		150	110	430	540		335		595	315				255			2150	23238
1250 x 190	A 100	1300	126-140	90	390	480		300	180	560	285	660	480	610				2400	22240
1250 x 210	A 120		150	120	440	560		340		600	320				270			2600	23240

GRUPPI RUOTA IN ACCORDO A NORME ILVA-FIAT
PER SERVIZIO ESTREMAMENTE PESANTE
WHEEL ASSEMBLY ACCORDING ILVA-FIAT FOR EXTRA HEAVY DUTY

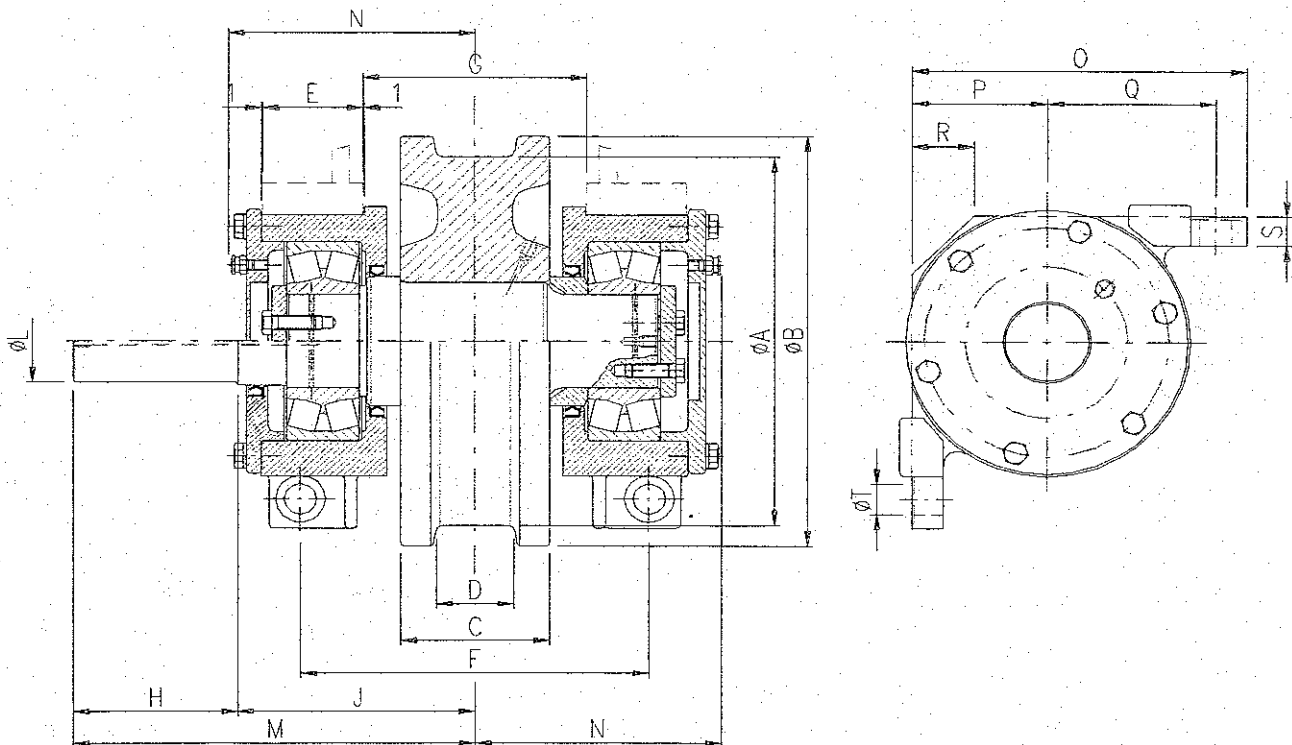


L-H-D = quote modificabili secondo esigenze
changeable dimension

A x C	ROTAIA RAIL	B	D	E	F	G	H	J	L A6	M	N	O	P	Q	R	S	T	PESO WEIGHT	CUSCINETTO BEARING
315 x 120	55	350	68	80	280	180	130	190	70	320	195	268	108	135		25	26	125	22316C
400 x 140	(55) 65	440							90			330	135	165	55			235	22320C
500 x 140	(65) 75	540	88	100	310	200		180	230	100	410	380	145	185	60			315	22322C
630 x 140	(65) 75	680					185	225	120			400	165	205	65	30	32	470	22326C
630x190	100											430	180	220				650	22328C
710 x 190	(75) 100	760							130			450	190	230	60			720	22330C
800 x 190	100 (120)	850										480	200	245				810	22332C
1000 x 190	100 (120)	1050	126	140	420	270	230	300		530	300							950	22334C
1120 x 190	100 (120)	1170							150			500	210	255	75	35	36	1100	
1250 x 190	100 (120)	1300																1250	

() Rotaie non consigliate - da specificare in richiesta
Not suggested rails - to be specified in inquiry

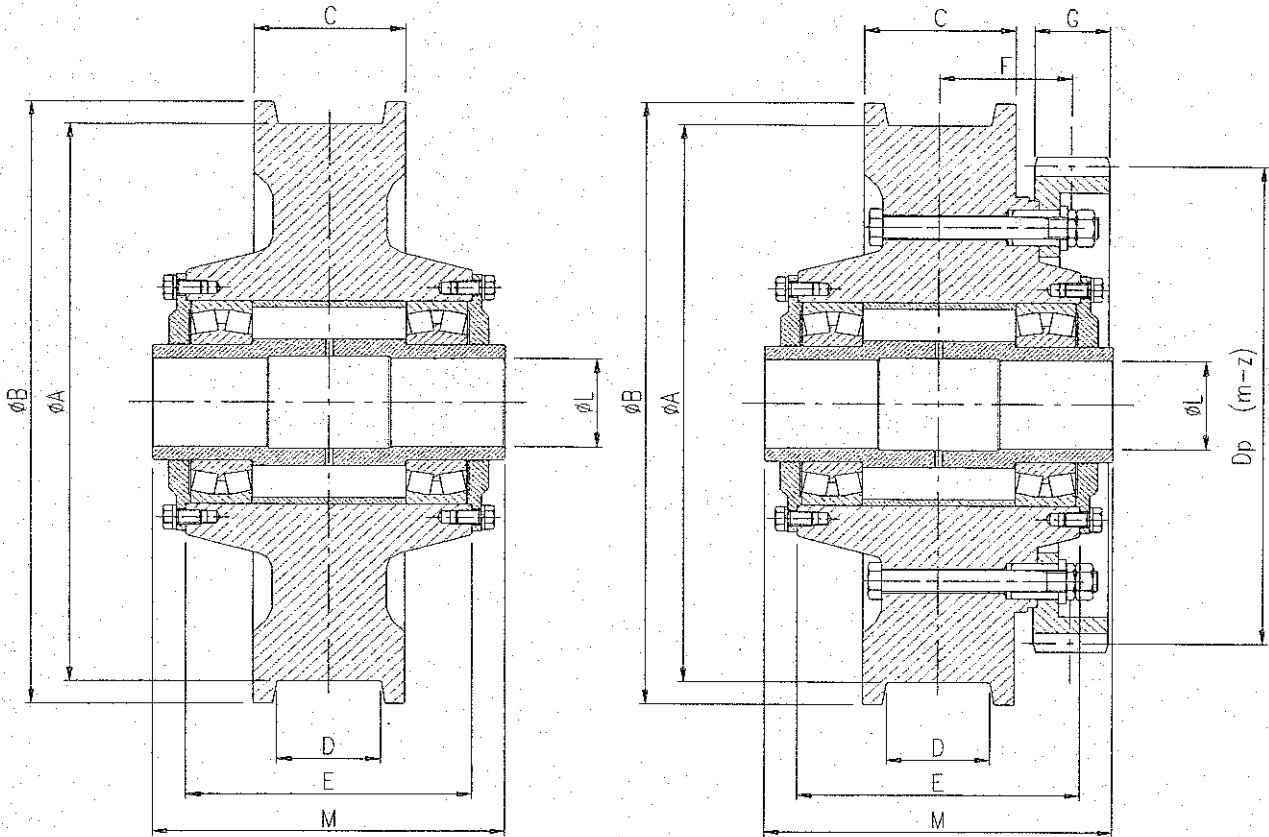
GRUPPI RUOTA A NORME ITALIMPIANTI-NISIC
PER SERVIZIO ESTREMAMENTE PESANTE DI SIDERURGIA
WHEEL ASSEMBLY ACCORDING ITALIMPIANTI-NISIC FOR EXTRA HEAVY DUTY



L-H-D = quote modificabili secondo esigenze
changeable dimension

A x C	ROTAIA RAIL	B	D	E	F	G	H	J	L	M	N	O	P	Q	R	S	T	PESO WEIGHT	CUSCINETTO BEARING
315 x 120	55	350	66	80	280	180	130	190	70	320	192	268	108	135		25		145	22219
400 x 140	(55)	440							90									265	22222
	65																	280	
500 x 140	(65)	540	90		310	200	180	230	100	410			135	165		55		330	22224
	75																	461	
630 x 140	(65)	680		100					120			360	145	185			26	225	22226
	75																	622	
630 x 190	(75)	100	112		380				130				165	205		30		257	23228
	100																	740	
710 x 190	(75)	760	112						150	530		400	180	220			32	294	23230
	100																	925	
800 x 190	100	850	126	140		270	230	300				430	180	220	65			300	23232
	120																	992	
1000 x 190	100	1050	126						150			190	230					1310	23236
	120																	1417	

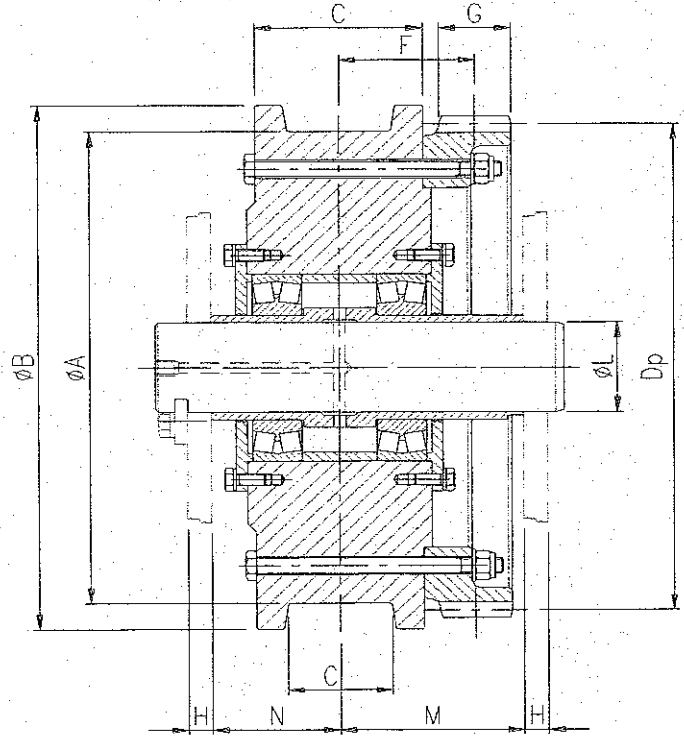
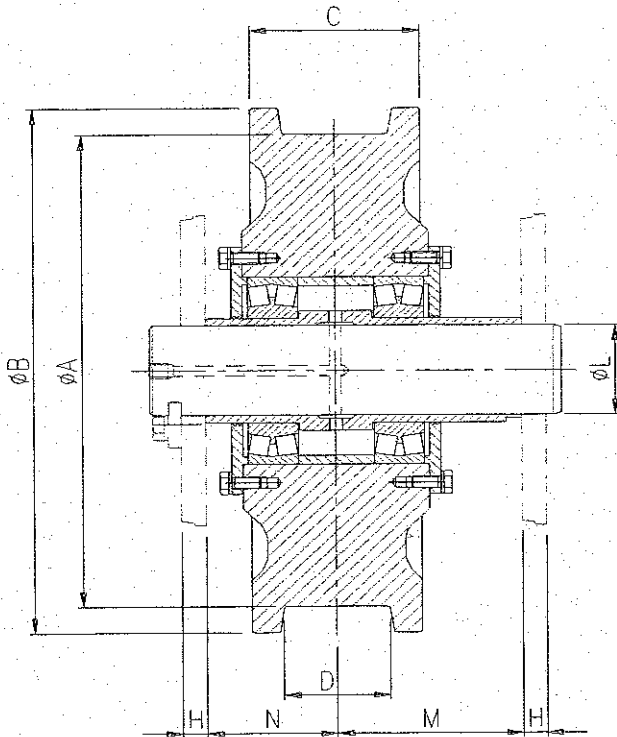
GRUPPI RUOTA A NORME DIN 15079-15080 CUSCINETTI SERIE 22200
WHEEL ASSEMBLY ACCORDING DIN 15079-15080 BEARING SERIES 22200



L-D = quote modificabili secondo esigenze
changeable dimension

A x C	ROTAIA RAIL	B	D	E	F	G	L	M	m	z	Dp	PESO WEIGHT		CUSCINETTO BEARING
												MOTRICE DRIVE	FOLLE IDLE	
315 x 90	45	350	55	190	90	60	60	250	6	52	312	95	75	22218
315 x 110	55		210	270				125				105		
400 x 110	75	440	65	220	102,5	65	80	280	8	40	320	153	130	22220
400 x 140			90	250	117,5			310				50	400	
500 x 110	55	540	65	230	105	70	90	290	10	42	420	233	190	22224
500 x 140	75		90	260	120			320				49	490	
630 x 120	65	680	75	300	140	80	100	330	10	54	540	345	270	22226
630 x 160	100		110					370				400	320	
710 x 140	75	760	90	300	135	90	110	370	12	50	600	485	390	22230
710 x 210	120		160	370	170			440				58	696	
800 x 140	75	850	90	320	140	100	125	390	12	58	696	585	465	22232
800 x 210	120		160	390	175			460				66	792	
900 x 140	75	950	90	340	145	110	140	410	14	56	784	720	570	22236
900 x 210	120		160	410	180			480				63	882	
1000 x 140	75	1050	90	330	145	160	160	410	14	64	896	940	750	22240
1000 x 210	120		400	180	480			70				980	1130	
1120 x 220	120	1180	160	440	192,5	125	180	16	68	1088	1480	1190	1400	22244
1250 x 220		1310					200							520

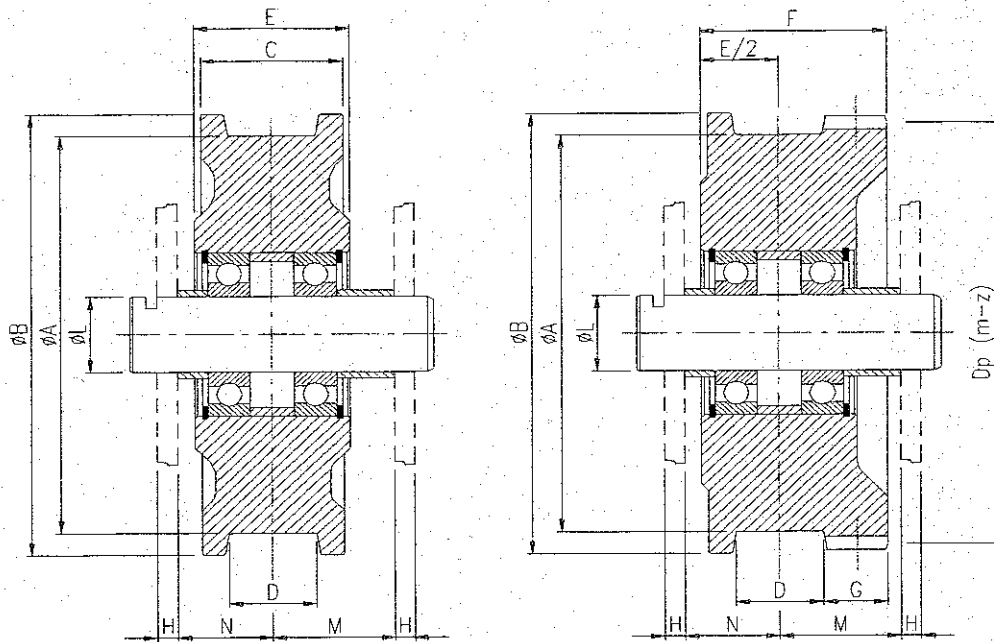
GRUPPI RUOTA CON CORONA ED ASSE FISSO
WHEEL ASSEMBLY WITH CROWN AND FIXED SHAFT



L-D = quote modificabili secondo esigenze
changeable dimension

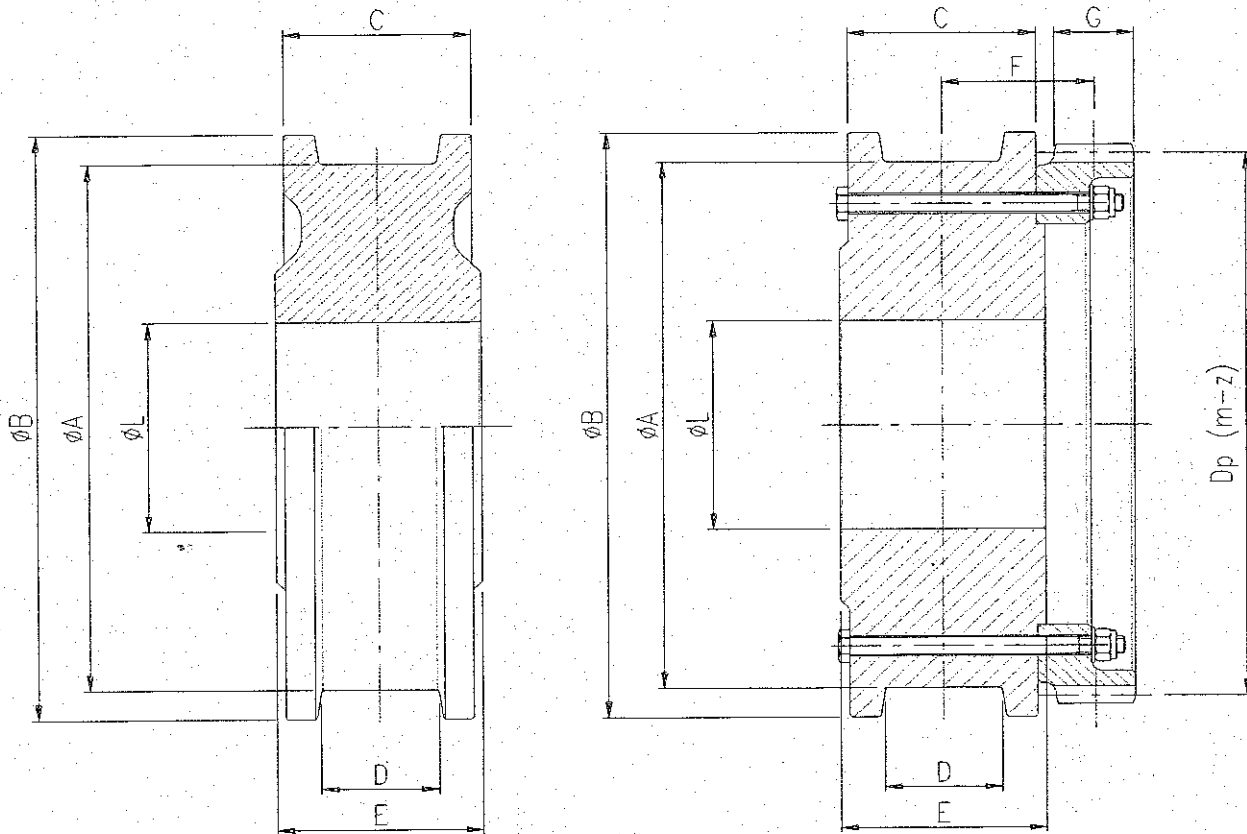
A x C	ROTAJA RAIL	B	D	F	G	H	L	m	z	Dp	PESO WEIGHT	CUSCINETTO BEARING
160 x 80	45	190	50	60	45	12	45	4	46	184	19-22	22211
200 x 100	55	230	65	75	50	15	50	5	55	220	32-38	22212
250 x 100		280		80	55		55		66	264	48-56	22213
315 x 105	65	350	80	85	60	20	60	6	65	325	80-93	22214
400 x 125		440		100	75		75		70	420	155-178	22218
500 x 130	75	540	90	105	85	25	85	7	74	518	235-275	22220
630 x 140	100	680		125	100		100		8	78	624	400-450
630 x 180	120	760	130	165	120	170	110	10	63	630	540-620	22228
710 x 190			140	130	130		120		130	12	59	708
800 x 190	120	850	140	140	145	170	160	14	57	798	850-1050	22232
1000 x 190							1050		175	145	170	16

GRUPPI RUOTA CON CORONA ED ASSE FISSO
WHEEL ASSEMBLY WITH CROWN AND FIXED SHAFT



A x C	ROTAIA RAIL	B	D	E	F	G	H	L	M	N	m	z	Dp	PESO WEIGHT	CUSCINETTO BEARING
160 x 80	45	190	50	90	97,5	27,5	12	45	60	55	4	45	180	18-15	6309-2RS1
200 x 100	55	230	65	110	125	37,5	12	50	75	65	5	55	220	35-30	6310-2RS1
250 x 100		280			130	42,5	12	55	80	65		67	268	50-45	6311-2RS1
315 x 105		350	115	137,5	47,5	15	60	90	70	67		335	85-75	6312-2RS1	
400 x 125		440	80	135	165	57,5	15	75	110	80		6	71	426	165-155
500 x 130	540	140		172,5	62,5	20	85	115	85	7	75	525	250-230	6317-2RS1	

GRUPPI RUOTA CON CORONA
WHEEL ASSEMBLY WITH CROWN



L-D = quote modificabili secondo esigenze
changeable dimension

A x C	B	D	E	F	G	L	m	z	Dp	PESO WEIGHT
160 x 80	190	50	90	60	25	45	4	46	184	16-13
200 x 100	230	65	110	75	35	50		55	220	31-25
250 x 100	280			80	40	55		66	264	47-39
315 x 105	350	80	115	85	45	60	5	65	325	79-66
400 x 125	440		135	100	55	75	6	70	420	148-125
500 x 130	540		140	105	60	85	7	74	518	250-210