

RIDUTTORI A VITE SENZA FINE WORM GEARBOXES SCHNECKENGETRIEBE

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SERIE / SERIES / SERIE **X** SERIE / SERIES / SERIE **H**

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1.1 CARATTERISTICHE

I riduttori a vite senza fine sono disponibili nelle due serie: X ed H. La serie X, con vite-corona a dentatura elicoidale, è disponibile nelle versioni alberata XA, predisposizione per attacco motore XF-XC. La versione XF (campana + giunto), caratterizzata da una più ampia versatilità ai diversi tipi di applicazioni, presenta un più elevato rendimento rispetto a quello della serie compatta XC, la quale a sua volta presenta il vantaggio di un ingombro ridotto. La serie H presenta le stesse caratteristiche della serie X, ma la presenza della precoppia cilindrica in entrata consente migliori prestazioni e rapporti più elevati della serie X. La carcassa monoblocco è in ghisa nelle grandezze 110 e 90 e in alluminio pressofuso per le grandezze inferiori. La vite senza fine è in acciaio legato cementato-temprato ed è rettificata. La corona ha mozzo in ghisa con riporto di fusione in bronzo. Viene fornito l'albero uscita cavo di serie ed esiste un'ampia disponibilità di accessori:

seconda entrata, dispositivo antiritorno, flangia uscita, albero lento con 1 o 2 sporgenze, calettatore, limitatore di coppia con cavo passante, braccio di reazione.

1.1 CHARACTERISTICS

The worm reduction gears come in two series: X and H. The series X, featuring a worm-and worm wheel set, is available in versions XA with shaft and XF-XC with mounting provisions for motor. Version XF (bell housing + coupling) offers great versatility to suit a broad range of applications and provides higher efficiency than the compact line XC, where the emphasis is on space efficiency. Series H offers the same features as series X with an added plus: a spur gear pre-stage at the input end provides higher performance and a broader range of ratios than the X series. Frame sizes 110 and 90 feature a cast-iron housing cast en bloc, whereas smaller sizes use die-cast aluminium housings. The worm shaft is manufactured from casehardened and hardened alloy steel and ground-finished. The worm wheel has a cast-iron hub with cast-bronze insert. Hollow output shaft is supplied as standard. Broad range of options available:

second input, backstop, output flange, single or double extension output shaft, shrink disc coupling, torque limiter with through cable, torque arm.

1.1 MERKMALE

Die Schneckengetriebe werden in zwei Versionen angeboten: X und H. Die Serie X, mit einer schrägverzahnten Einheit aus Schnecke-Zahnkranz, ist in den Versionen XA mit Welle und XF-XC mit Vorbereitung für den Motoranschluss verfügbar. Die Version XF (Glocke + Kupplung), die sich durch ihre zahlreichen Applikationsmöglichkeiten auszeichnet, bietet höhere Leistungsfähigkeiten als die Kompaktserie XC, die wiederum Vorteile im Sinne der Platzersparnis mit sich bringt. Die Serie H verfügt über die gleichen Eigenschaften der Serie X, doch die Tatsache, dass sie am Antrieb über eine Vorstufe mit einem zylindrischen Zahnradpaar verfügt, führt hier im Vergleich zur Serie X zum Erhalt besserer Leistungen und höherer Übersetzungsverhältnisse. Der Gehäuseblock ist in den Baugrößen 110 und 90 aus Gußeisen und in einem Aluminiumdruckguß für die kleineren Versionen. Die Schnecke ist aus einsatzgehärtetem/abgeschrecktem und daraufhin geschliffenen Legierungsstahl. Der Zahnkranz verfügt über eine Nabe aus Gußeisen mit Schmelzeinsatz aus Bronze. Die Hohlwelle gehört zur serienmäßigen Ausstattung und darüber hinaus findet man zahlreiches Zubehör im Angebot:

zweiter Antrieb, Rücklaufsperr, Abtriebsflansch, Abtriebswelle mit 1 oder 2 Übertragungen, Schrumpfscheibenverbindung, Drehmomentbegrenzer mit durchgehender Hohlwelle, Drehmomentstütze

1.2 DESIGNAZIONE

1.2 DESIGNATION

1.2 BEZEICHNUNG

Macchina Machine Maschine	Tipo entrata Input type Antriebsart	Grandezza Size Größe	Rapporto rid. Ratio Untersetzung	Predispos.att. mot. Motor mounting facility Motoranbau	Posizione di mont. Mounting position Anbauposition	Flangia in uscita. Output flange Abtriebsflansch	Limitatore di coppia. Torque limiter Rutschkupplung	Seconda entrata Additional input Zusatzantrieb	Antiritorno Back-stop device Rücklaufsperr	Calettatore Shrink disc Schrumpfscheibe	
	X	A	50	10/1	P.A.M.	B3	F1S	LD	SA	CW	C.S.
		A	30	7.5 - 100		B3, B6	F1S-F2S	LD	SA	CW	C.S.
		F	40			B7, B8	F1D-F2D	LS	SF	AW	C.D.
		C	50			V5, V6	F12-F22				
			63								
			75								
			90 110								
	H	A	50	30/1	P.A.M.	B3	F1S	LD	SA	CW	C.S.
		A	40	30 - 400		B3, B6	F1S-F2S	LD	SA	CW	C.S.
		F	50			B7, B8	F1D-F2D	LS	SF	AW	C.D.
			63			V5, V6	F12-F22				
			75								
			90								
			110								

1.3 LUBRIFICAZIONE

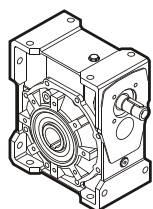
Riduttori a vite senza fine X e H sono forniti completi di lubrificante sintetico. Si raccomanda di precisare sempre in fase di ordine, la posizione di lavoro desiderata.

1.3 LUBRICATION

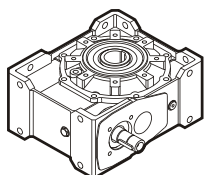
Worm reduction gears X and H are supplied filled with synthetic oil. Always specify designated mounting position on order.

1.3 SCHMIERUNG

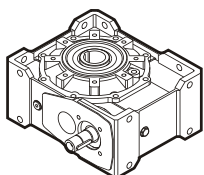
Schneckengetriebe X und H werden bereits mit synthetischem Schmiermittel gefüllt geliefert (Für Größen 90 und 110 nur auf Wunsch). Im Auftrag bitte immer die gewünschte Einbaulage angeben.



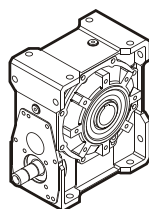
B3



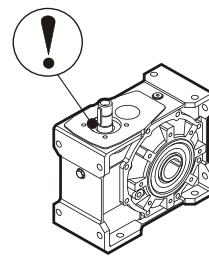
B6



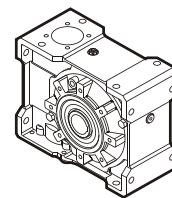
B7



B8

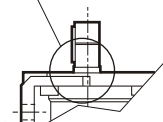
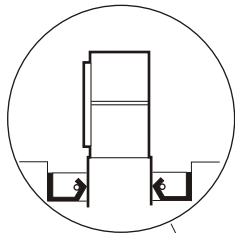


V5



V6

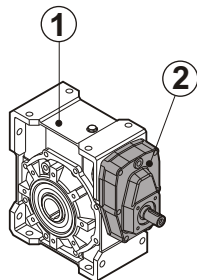
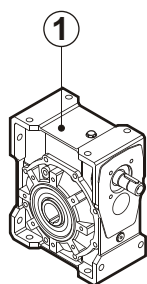
HA
HF V5



Attenzione! Nelle versioni HA e HF è indispensabile conoscere la posizione di lavoro in quanto nella configurazione V5 occorre posizionare in modo corretto il paraolio della vite per preservare la corretta lubrificazione della coppia d'ingranaggi cilindrici del primo stadio di riduzione.

Warning! It is especially important to specify mounting position when ordering versions HA and HF. This is because the V5 configuration requires that the worm shaft oil seal be positioned accordingly in order to ensure proper lubrication of the first reduction spur gear set.

Achtung! Bei den Versionen HA und HF ist die Information bezüglich der Einbau- bzw. die Arbeitslage unbedingt erforderlich, da in der Konfiguration V5 der Ölabdichtung der Schnecke korrekt angeordnet werden muss, um eine korrekte Schmierung des Zylinderradpaars der ersten Stufe aufrecht zu erhalten.

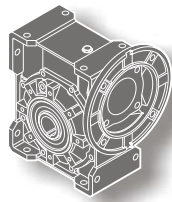


		Q.tà olio / Oil quantity / Schmiermittelmenge [lt]			
		Posizione di montaggio / Mounting position / Einbaulage			
		B3	B6 - B7	B8	V5 - V6
① X H	30		0.03		
	40		0.10		
	50		0.15		
	63		0.4		
	75		0.6		
	90	1.1	0.90	1.3	1.2
	110	2.4	2.0	2.8	2.7
② H		B3	B6	B8	V5
	40		0.05		
	50		0.07		
	63		0.15		
	75		0.25		
	90		0.28		
	110		0.35		

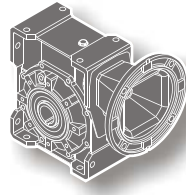
Specificare sempre in fase di ordinazione la posizione di montaggio e la forma costruttiva.

Specify the version and the mounting position when ordering.

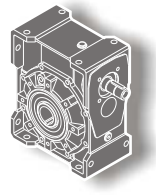
Bei der Bestellung immer die gewünschte Montageposition und Bauform angeben.



XC



XF



XA

30	$n_1=1400 \text{ min}^{-1}$		XC - XF						XA			
	in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC				T_{2M} [Nm]	P [kW]	Rd
						XC		XF				
						B5	B14	B5	B14			
7.5	187	9	0.22	2.2					21	0.49	0.84	
10	140	12	0.22	1.8					22	0.39	0.82	
15	93	17	0.22	1.3					22	0.28	0.77	
20	70	18	0.18	1.1	63	63			19	0.19	0.72	
25	56	15	0.13	1.1	56	56			17	0.14	0.69	
30	47	18	0.13	1.4			63	63	17	0.14	0.69	
40	35	14	0.09	1.4			56	56	24	0.18	0.66	
50	28	17	0.09	1.1					21	0.13	0.59	
65	22	14	0.06	1.3					19	0.10	0.55	
80	18	16	0.06	1.1	56	56			18	0.08	0.51	
100	14	18	0.06	0.8					17	0.06	0.48	
									14	0.05	0.45	

40	$n_1=1400 \text{ min}^{-1}$		XC - XF						XA			
	in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC				T_{2M} [Nm]	P [kW]	Rd
						XC		XF				
						B5	B14	B5	B14			
7.5	187	24	0.55	1.7					40	0.92	0.85	
10	140	31	0.55	1.3					41	0.72	0.83	
15	93	30	0.37	1.4	71	71			42	0.52	0.79	
20	70	38	0.37	1.0	63	63			40	0.39	0.76	
25	56	31	0.25	1.1			71	71	35	0.29	0.72	
30	47	35	0.25	1.3			63	63	45	0.32	0.68	
40	35	38	0.22	1.1			56	56	42	0.24	0.64	
50	28	36	0.18	1.0	63	63			38	0.19	0.59	
65	22	31	0.13	1.1					35	0.15	0.54	
80	18	31	0.11	1.1	63	63			33	0.12	0.52	
100	14	30	0.09	0.9	56	56			28	0.08	0.49	

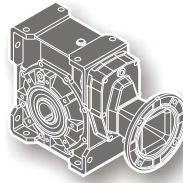
50	$n_1=1400 \text{ min}^{-1}$		XC - XF						XA			
	in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC				T_{2M} [Nm]	P [kW]	Rd
						XC		XF				
						B5	B14	B5	B14			
7.5	187	40	0.9	1.8					70	1.59	0.86	
10	140	52	0.9	1.4					73	1.27	0.84	
15	93	61	0.75	1.2					75	0.92	0.80	
20	70	59	0.55	1.3	80	80			75	0.70	0.78	
25	56	47	0.37	1.4	71	71			65	0.52	0.74	
30	47	54	0.37	1.5			80	80	81	0.56	0.71	
40	35	68	0.37	1.2			71	71	79	0.43	0.67	
50	28	53	0.25	1.3	71	71			70	0.33	0.62	
65	22	64	0.25	1.0			63	63	65	0.25	0.58	
80	18	53	0.18	1.1	71	71			60	0.20	0.54	
100	14	45	0.13	1.2	63	63			55	0.16	0.51	

63 6.6	$n_1=1400 \text{ min}^{-1}$		XC - XF						XA			
	in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC				T_{2M} [Nm]	P [kW]	Rd
						XC		XF				
						B5	B14	B5	B14			
7.5	187	80	1.8	1.5	90	90	90	90	120	2.70	0.87	
10	140	104	1.8	1.2					127	2.19	0.85	
15	93	124	1.5	1.0					130	1.57	0.81	
20	70	120	1.1	1.2	80	80	90	90	144	1.32	0.80	
25	56	118	0.9	1.0	80	80			120	0.91	0.77	
30	47	134	0.9	1.1					142	0.95	0.73	
40	35	141	0.75	1.1	80	80	90	90	150	0.80	0.69	
50	28	122	0.55	1.0					123	0.55	0.65	
65	22	100	0.37	1.2					122	0.45	0.61	
80	18	79	0.25	1.4	80	80	113	0.36	0.58			
100	14	90	0.25	1.1	71	71	102	0.28	0.53			

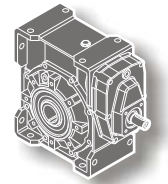
75 11.1	$n_1=1400 \text{ min}^{-1}$		XC - XF						XA			
	in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC				T_{2M} [Nm]	P [kW]	Rd
						XC		XF				
						B5	B14	B5	B14			
7.5	187	178	4	1.1	112	112	112	112	180	4.04	0.87	
10	140	176	3	1.1					193	3.29	0.86	
15	93	187	2.2	1.1					202	2.38	0.83	
20	70	199	1.8	1.1	100	100	112	112	226	2.05	0.81	
25	56	200	1.5	1.0	90	90			202	1.52	0.78	
30	47	167	1.1	1.3	90	90			220	1.45	0.74	
40	35	213	1.1	1.1			235	1.21	0.71			
50	28	206	0.9	1.0	90	90	90	90	211	0.92	0.67	
65	22	154	0.55	1.3					195	0.70	0.63	
80	18	180	0.55	1.0					182	0.56	0.60	
100	14	210	0.55	0.8	80	80	162	0.42	0.56			

90 23.6	$n_1=1400 \text{ min}^{-1}$		XC - XF						XA			
	in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC				T_{2M} [Nm]	P [kW]	Rd
						XC		XF				
						B5	B14	B5	B14			
7.5	187	248	5.5	1.2	112	112	112	112	290	6.44	0.88	
10	140	235	4	1.3					305	5.20	0.86	
15	93	258	3	1.2					320	3.72	0.84	
20	70	336	3	1.1	100	100	112	112	360	3.22	0.82	
25	56	300	2.2	1.1	90	90			332	2.43	0.80	
30	47	342	2.2	1.0	90	90			350	2.25	0.76	
40	35	354	1.8	1.1			377	1.92	0.72			
50	28	353	1.5	1.0	90	90	90	90	355	1.51	0.69	
65	22	317	1.1	1.0					318	1.10	0.65	
80	18	309	0.9	1.0					307	0.89	0.63	
100	14	218	0.55	1.2	80	80	264	0.67	0.58			

110 44.0	$n_1=1400 \text{ min}^{-1}$		XC - XF						XA				
	in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC				T_{2M} [Nm]	P [kW]	Rd	
						XC		XF					
						B5	B14	B5	B14				
7.5	187	414	9.2	1.2	132	132	132	132	480	10.66	0.88		
10	140	445	7.5	1.1					504	8.49	0.87		
15	93	473	5.5	1.1					543	6.32	0.84		
20	70	623	5.5	1.0	112	112	132	132	621	5.48	0.83		
25	56	553	4	1.0	100	100			578	4.18	0.81		
30	47	473	3	1.3	100 - 90	100 - 90			601	3.81	0.77		
40	35	606	3	1.1			90	90	650	3.22	0.74		
50	28	540	2.2	1.1	100	100	608	2.48	0.72				
65	22	452	1.5	1.2	112	112	132	132	528	1.75	0.68		
80	18	390	1.1	1.3					100	100	503	1.42	0.65
100	14	458	1.1	1.0					90	90	455	1.09	0.61



HF



HA

40	$i_1 \times i_2$	$n_1=1400 \text{ min}^{-1}$		HF				HA			
		in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC		T_{2M} [Nm]	P [kW]	Rd
							B5	B14			
Kg 2.9	4x7.5	30	47	35	0.22	1.9	63 56	63 56	65	0.41	0.77
	4x10	40	35	45	0.22	1.4			65	0.32	0.75
	4x15	60	23	62	0.22	1.0			65	0.23	0.69
	4x20	80	18	47	0.13	1.3			60	0.17	0.66
	4x25	100	14	46	0.11	1.1			52	0.12	0.61
	4x30	120	12	61	0.13	1.1			66	0.14	0.57
	4x40	160	9	62	0.11	1.0			63	0.11	0.52
	4x50	200	7	58	0.09	1.0			57	0.09	0.47
	4x65	260	5	46	0.06	1.1			49	0.06	0.43
	4x80	320	4	54	0.06	0.8			44	0.05	0.41
4x100	400	3.5	62	0.06	0.5	33	0.03	0.38			

50	$i_1 \times i_2$	$n_1=1400 \text{ min}^{-1}$		HF				HA			
		in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC		T_{2M} [Nm]	P [kW]	Rd
							B5	B14			
Kg 4.7	4x7.5	30	47	89	0.55	1.3	71 63 56	71 63	113	0.70	0.79
	4x10	40	35	114	0.55	1.0			116	0.56	0.76
	4x15	60	23	108	0.37	1.1			117	0.40	0.71
	4x20	80	18	93	0.25	1.2			114	0.31	0.68
	4x25	100	14	95	0.22	1.0			97	0.23	0.63
	4x30	120	12	121	0.25	1.0			121	0.25	0.59
	4x40	160	9	108	0.18	1.1			115	0.19	0.55
	4x50	200	7	89	0.13	1.2			102	0.15	0.50
	4x65	260	5	90	0.11	1.0			93	0.11	0.46
	4x80	320	4	83	0.09	1.0			84	0.09	0.42
4x100	400	3.5	65	0.06	1.0	63	0.06	0.40			

63	$i_1 \times i_2$	$n_1=1400 \text{ min}^{-1}$		HF				HA			
		in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC		T_{2M} [Nm]	P [kW]	Rd
							B5	B14			
Kg 7.9	4x7.5	30	47	146	0.9	1.4	80 71 63	80 71	198	1.22	0.79
	4x10	40	35	189	0.9	1.1			203	0.97	0.77
	4x15	60	23	162	0.55	1.3			203	0.69	0.72
	4x20	80	18	210	0.55	1.0			220	0.58	0.70
	4x25	100	14	169	0.37	1.1			181	0.40	0.67
	4x30	120	12	185	0.37	1.2			213	0.43	0.61
	4x40	160	9	156	0.25	1.4			220	0.35	0.57
	4x50	200	7	177	0.25	1.0			180	0.25	0.52
	4x65	260	5	153	0.18	1.1			175	0.21	0.48
	4x80	320	4	131	0.13	1.2			160	0.16	0.46
4x100	400	3.5	145	0.13	0.9	126	0.11	0.41			

1.4 DATI TECNICI

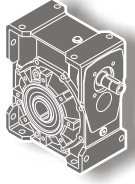
1.4 TECHNICAL DATA

1.4 TECHNISCHE DATEN

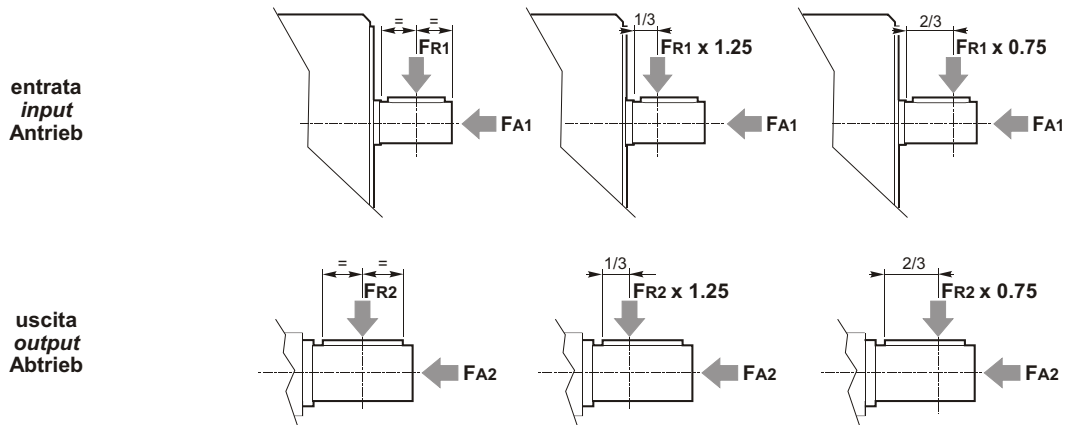
75	$i_1 \times i_2$	$n_1=1400 \text{ min}^{-1}$		HF					HA		
		in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC		T_{2M} [Nm]	P [kW]	Rd
							B5	B14			
Kg 13.3	4x7.5	30	47	295	1.8	1.0	90 80 71	90 80	297	1.81	0.80
	4x10	40	35	319	1.5	1.0			318	1.49	0.78
	4x15	60	23	329	1.1	1.0			331	1.11	0.73
	4x20	80	18	349	0.9	1.0			348	0.90	0.71
	4x25	100	14	255	0.55	1.2			305	0.66	0.68
	4x30	120	12	279	0.55	1.2			331	0.65	0.62
	4x40	160	9	348	0.55	1.0			351	0.55	0.58
	4x50	200	7	278	0.37	1.1			307	0.41	0.55
	4x65	260	5	222	0.25	1.3			279	0.31	0.50
	4x80	320	4	256	0.25	1.0			259	0.25	0.47
4x100	400	3.5	293	0.25	0.7	213	0.18	0.43			

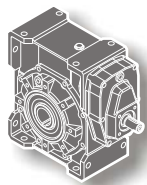
90	$i_1 \times i_2$	$n_1=1400 \text{ min}^{-1}$		HF					HA		
		in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC		T_{2M} [Nm]	P [kW]	Rd
							B5	B14			
Kg 27.2	4x7.5	30	47	298	1.8	1.6	90 80 71	90 80	482	2.91	0.81
	4x10	40	35	388	1.8	1.3			495	2.30	0.79
	4x15	60	23	460	1.5	1.1			506	1.65	0.75
	4x20	80	18	432	1.1	1.3			554	1.41	0.72
	4x25	100	14	430	0.9	1.2			505	1.06	0.70
	4x30	120	12	471	0.9	1.1			531	1.01	0.64
	4x40	160	9	491	0.75	1.1			560	0.86	0.60
	4x50	200	7	428	0.55	1.2			510	0.66	0.57
	4x65	260	5	348	0.37	1.3			454	0.48	0.53
	4x80	320	4	404	0.37	1.0			424	0.39	0.50
4x100	400	3.5	307	0.25	1.2	367	0.30	0.45			

110	$i_1 \times i_2$	$n_1=1400 \text{ min}^{-1}$		HF					HA		
		in	n_2 [min^{-1}]	T_2 [Nm]	P1 [kW]	FS'	IEC		T_{2M} [Nm]	P [kW]	Rd
							B5	B14			
Kg 48.8	4x7.5	30	47	671	4	1.2	112 100 90 80	112 100 90	807	4.81	0.82
	4x10	40	35	655	3	1.3			825	3.78	0.80
	4x15	60	23	560	1.8	1.0			564	1.81	0.76
	4x20	80	18	888	2.2	1.1			957	2.37	0.74
	4x25	100	14	884	1.8	1.0			883	1.80	0.72
	4x30	120	12	810	1.5	1.1			916	1.70	0.66
	4x40	160	9	744	1.1	1.3			972	1.44	0.62
	4x50	200	7	900	1.1	1.0			896	1.09	0.60
	4x65	260	5	732	0.75	1.0			767	0.79	0.55
	4x80	320	4	624	0.55	1.2			722	0.64	0.52
4x100	400	3.5	705	0.55	0.9	644	0.50	0.47			

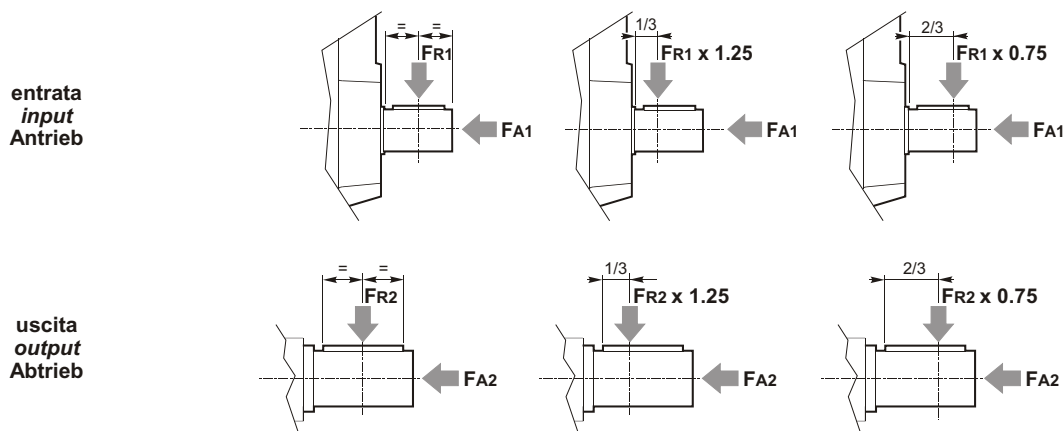


Carichi radiali e assiali / Radial and axial load / Radial und Axial Belastungen [N]														
Grandezza Size Größe	XA - XC - XF												XA	
	uscita / output / Abtrieb												entrata / input / Antrieb $n_1=1400 \text{ min}^{-1}$	
	i												F_{r1}	F_{a1}
		7.5	10	15	20	25	30	40	50	65	80	100		
30	F_{r2}	750	775	800	850	900	950	1000	1100	1200	1300	1450	100	20
	F_{a2}	150	115	160	170	180	190	200	220	240	260	290		
40	F_{r2}	1150	1200	1250	1350	1500	1600	1700	1800	1950	2100	2300	220	44
	F_{a2}	230	240	250	270	300	320	340	360	390	420	460		
50	F_{r2}	1200	1400	1600	1900	2100	2500	2800	3000	3200	3200	3200	400	80
	F_{a2}	240	280	320	380	420	500	560	600	640	640	640		
63	F_{r2}	1250	1700	1750	2000	2500	2700	3000	3250	3500	3700	3900	480	96
	F_{a2}	250	340	350	400	500	540	600	650	700	740	780		
75	F_{r2}	1300	1900	2300	2500	3000	3200	3500	3800	4100	4400	4700	750	150
	F_{a2}	260	380	460	500	600	640	700	760	820	880	940		
90	F_{r2}	1350	2100	2500	2700	3500	3700	3900	4300	5000	5500	5800	850	170
	F_{a2}	270	240	500	540	700	740	780	860	1000	1100	1160		
110	F_{r2}	1400	2700	3600	4500	5000	5400	6300	6900	7500	8000	8000	1200	240
	F_{a2}	280	540	720	900	1000	1080	1260	1380	1500	1600	1600		





Carichi radiali e assiali / Radial and axial load / Radial und Axial Belastungen [N]														
Grandezza Size Größe		HA - HF											HA	
		uscita / output / Abtrieb											entrata / input / Antrieb $n_1=1400 \text{ min}^{-1}$	
		i											F_{r1}	F_{a1}
30	40	60	80	100	120	160	200	260	320	400				
40	F_{r2}	1500	1700	1800	1900	2000	2500	2500	2500	2500	2500	2500	150	30
	F_{a2}	300	340	360	380	400	500	500	500	500	500	500		
50	F_{r2}	2000	2300	2700	2900	2900	3000	3500	3500	3500	3500	3500	230	46
	F_{a2}	400	460	540	580	580	600	700	700	700	700	700		
63	F_{r2}	2500	2700	3500	4500	5000	5000	5000	5000	5000	5000	5000	320	64
	F_{a2}	500	540	700	900	1000	1000	1000	1000	1000	1000	1000		
75	F_{r2}	3200	3400	4350	5000	5750	5750	5750	5750	5750	5750	5750	570	114
	F_{a2}	340	680	870	1000	1150	1150	1150	1150	1150	1150	1150		
90	F_{r2}	5000	5100	5550	5900	6950	7000	7000	7000	7000	7000	7000	570	114
	F_{a2}	1000	1020	1110	1180	1390	1400	1400	1400	1400	1400	1400		
110	F_{r2}	6000	6100	7000	7200	7700	8000	8000	8000	8000	8000	8000	800	160
	F_{a2}	1200	1220	1400	1440	1540	1600	1600	1600	1600	1600	1600		

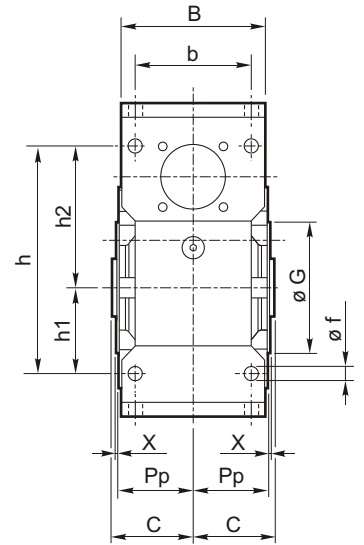
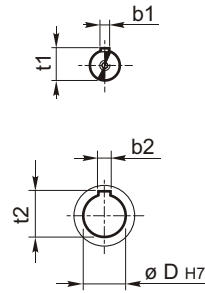
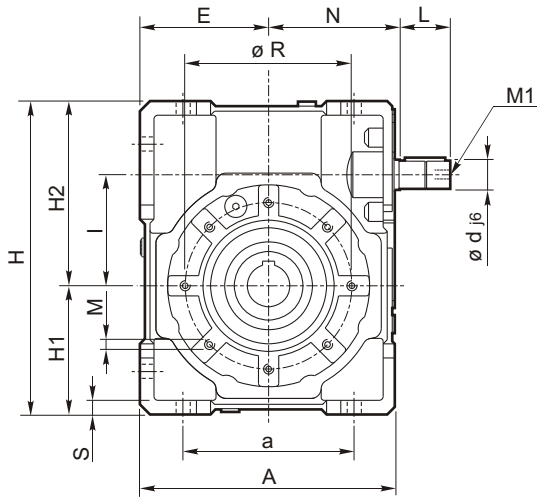


1.6 DIMENSIONI

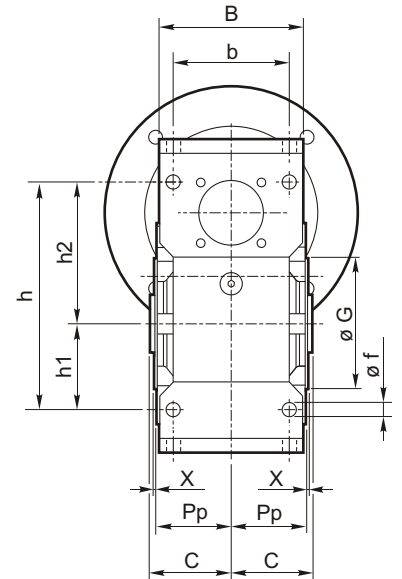
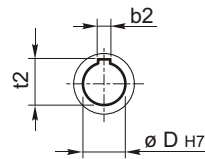
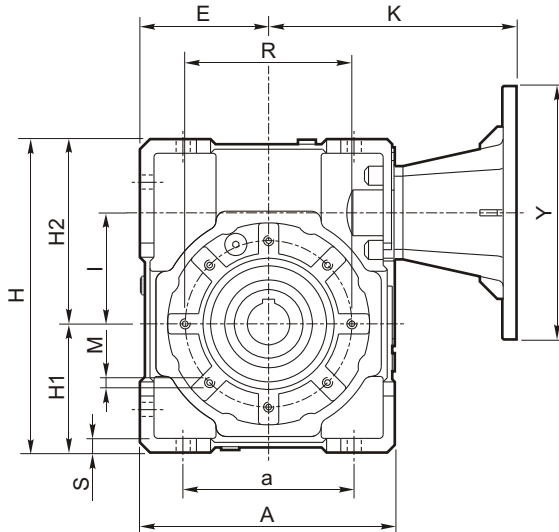
1.6 DIMENSIONS

1.6 ABMESSUNGEN

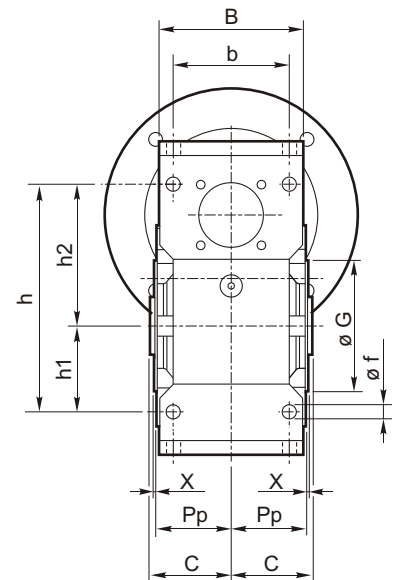
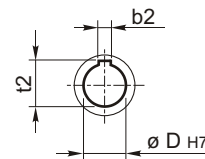
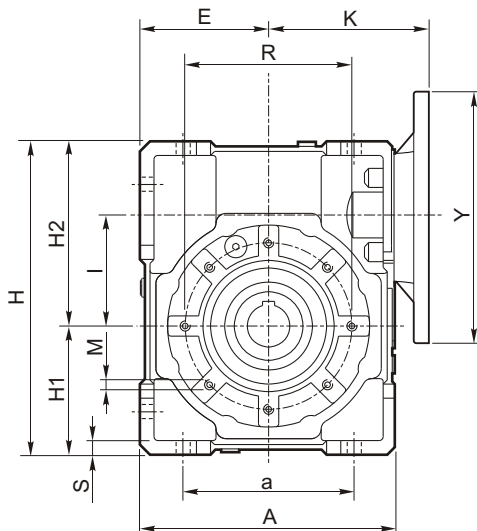
XA



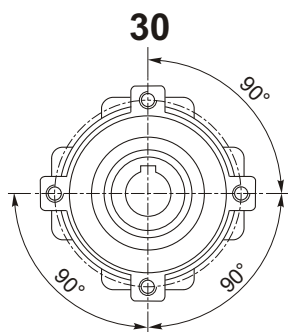
XF



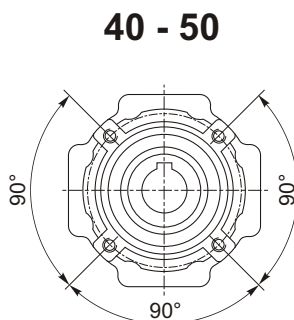
XC



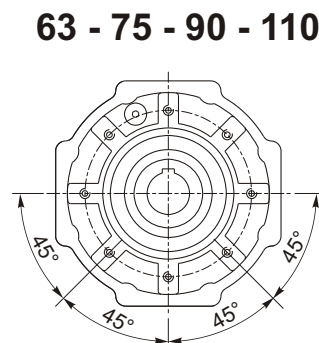
Flangia pendolare / Side cover for shaft mounting / Flansch für Drehmomentstutze



4 Fori / Holes / Bohrungen



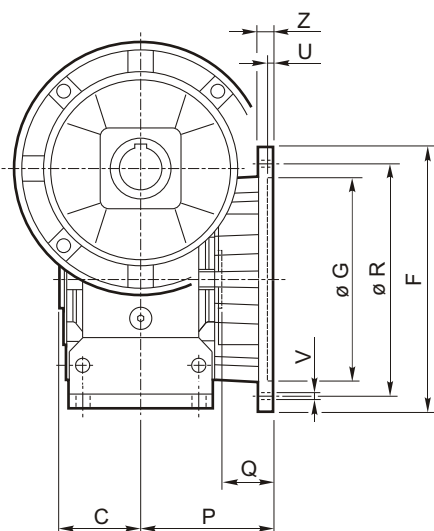
4 Fori / Holes / Bohrungen



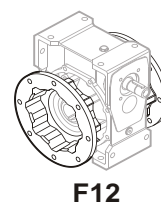
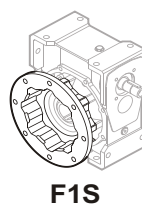
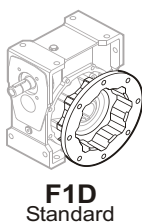
8 Fori / Holes / Bohrungen

	A	a	B	b	b1	b2	C	D	d	E	f	G h8	H	H1	H2	h	h1	h2	I	L	M	M1	N	Pp	R	s	t1	t2	X
30	80	54	56	44	3	5	31.5	14	9	40	6.5	55	97	40	57	71	27	44	31.5	15	M6x8	M4x10	44.5	29	65	5.5	10.2	16.3	1.5
40	105	70	71	60	4	6	39	18	11	50	6.5	60	125	50	75	90	35	55	40	20	M6X10	M4X12	57.5	36.5	75	6	12.5	20.8	1.5
50	125	80	85	70	5	8	46	25	14	60	8.5	70	150	60	90	104	40	64	50	25	M8x10	M5x13	67.5	43.5	85	7	16.0	28.3	1.5
63	147	100	103	85	6	8	56	25	19	72	9	80	182	72	110	130	50	80	63	30	M8x14	M8x20	77.5	53	95	8	21.5	28.3	2
75	176	120	112	90	8	8	60	28	24	86	11	95	219.5	86	133.5	153	60	93	75	40	M8x14	M8x20	95	57	115	10	27	31.3	2
90	203	140	130	100	8	10	70	35	24	103	13	110	248.5	103	145.5	172	70	102	90	40	M10x18	M8x20	105	67	130	12	27	38.3	2
110	252.5	170	143	115	8	12	77.5	42	28	127.5	14	130	310.5	127.5	183	210	85	125	110	50	M10x18	M8x20	130	74	165	14	31	45.3	2.5

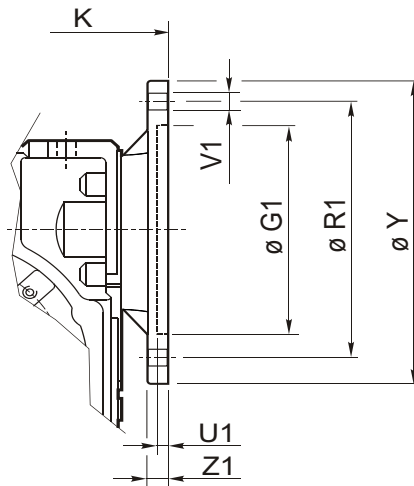
Flangia uscita / Output flange / Abtriebsflansch



Tipo Type Typ	C	F	G (H8)	P	Q	R	U	V	Z	
30	31.5	F1	66	50	54.5	23	68	4	6.5	6
		F2								
		F3								
40	39	F1	85	60	67	28	75-90	4	9	8
		F2	85	60	97	58	75-90	4	9	8
		F3	140	95	80	41	115	5	9	10
50	46	F1	94	70	90	44	85-95	5	11	10
		F2	160	110	89	43	130	5	11	11
		F3								
63	56	F1	142	115	82	26	150	5	11	11
		F2	142	115	112	56	150	5	11	11
		F3	160	110	80.5	24.5	130	5	11	12
75	60	F1	160	130	111	51	165	5	13	12
		F2	160	110	90	30	130	6	11	13
		F3								
90	70	F1	200	152	111	41	175	5	13	12
		F2	200	152	151	81	175	5	13	13
		F3	200	130	110	40	165	6	11	11
110	77.5	F1	260	170	131	53.5	230	6	13	15
		F2	250	180	150	72.5	215	5	15	16
		F3								

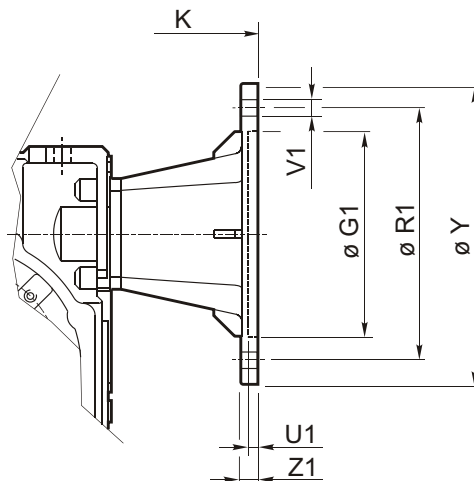


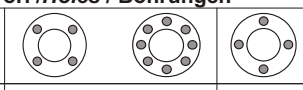
Flangia entrata / Input flange / Antriebsflansch



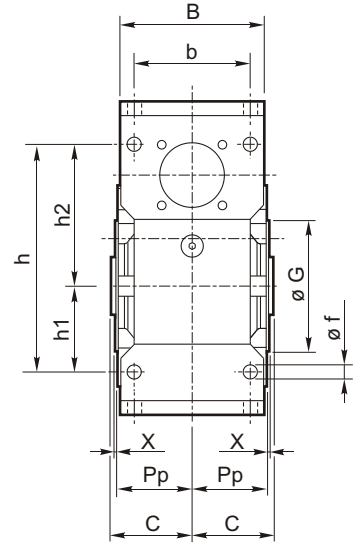
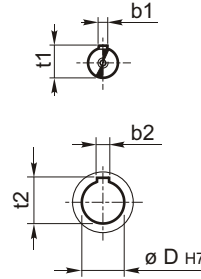
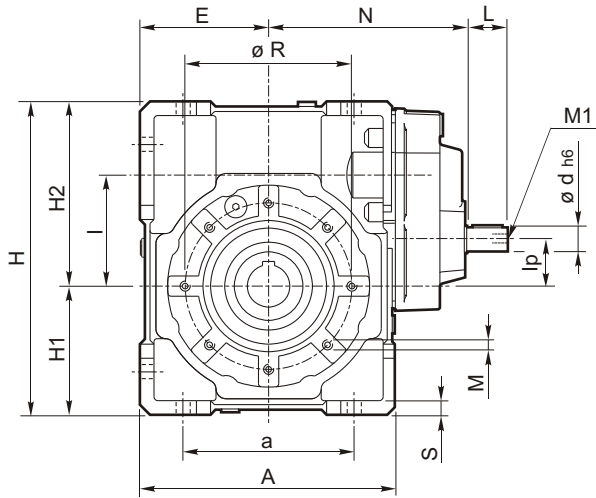
XC	PAM	G ₁	K	R ₁	U ₁	n° Fori / Holes / Bohrungen			Y	Z ₁	Diametro fori PAM / Holes diameter IEC / Bohrungen IEC												
						V ₁					7.5	10	15	20	25	30	40	50	65	80	100		
30	56 B5	80	57	100	4	7			120	8	9	9	9	9	9	9	9	9	9	9	9	9	9
	56 B14	50	57	65	3.5	6		4	80	8	9	9	9	9	9	9	9	9	9	9	9	9	9
	63 B5	95	57	115	4	9			140	8	11	11	11	11	11	11	11	11	11	11	/	/	/
	63 B14	60	57	75	4	6			90	8	11	11	11	11	11	11	11	11	11	11	/	/	/
40	56 B5	80	75	100	4	7			120	9	/	/	/	/	/	/	/	/	/	/	9	9	9
	56 B14	50	75	65	3.5	6		4	80	8	/	/	/	/	/	/	/	/	/	/	9	9	9
	63 B5	95	75	115	4	9			140	9	11	11	11	11	11	11	11	11	11	11	11	11	11
	63 B14	60	75	75	3.5	6		4	90	8	11	11	11	11	11	11	11	11	11	11	11	11	11
	71 B5	110	75	130	4.5	9			160	10	14	14	14	14	14	14	14	/	/	/	/	/	/
	71 B14	70	75	85	3.5	7		4	105	8	14	14	14	14	14	14	14	/	/	/	/	/	/
50	63 B5	95	82	115	4	9			140	9	/	/	/	/	/	/	/	/	/	/	11	11	11
	63 B14	60	82	75	3.5	6		4	90	8	/	/	/	/	/	/	/	/	/	/	11	11	11
	71 B5	110	82	130	4.5	9			160	10	14	14	14	14	14	14	14	14	14	14	14	14	14
	71 B14	70	82	85	3.5	7		4	105	8	14	14	14	14	14	14	14	14	14	14	14	14	14
	80 B5	130	82	165	4.5	11			200	10	19	19	19	19	19	19	19	19	19	19	/	/	/
	80 B14	80	82	100	4	7			120	10	19	19	19	19	19	19	19	19	19	19	/	/	/
63	71 B5	110	95	130	4.5	9			160	10	/	/	/	/	/	/	/	/	/	/	14	14	14
	71 B14	70	95	85	3.5	7		4	105	10	/	/	/	/	/	/	/	/	/	/	14	14	14
	80 B5	130	95	165	4.5	11			200	10	19	19	19	19	19	19	19	19	19	19	19	19	19
	80 B14	80	95	100	4	7		4	120	10	19	19	19	19	19	19	19	19	19	19	19	19	19
	90 B5	130	95	165	4.5	11			200	10	24	24	24	24	24	24	24	/	/	/	/	/	/
	90 B14	95	95	115	4	8.5			140	10	24	24	24	24	24	24	24	/	/	/	/	/	/
75	80 B5	130	112	165	4.5	11			200	10	/	/	/	/	/	/	/	/	/	/	19	19	19
	80 B14	80	112	100	4	7		4	120	11	/	/	/	/	/	/	/	/	/	/	19	19	19
	90 B5	130	112	165	4.5	11			200	10	24	24	24	24	24	24	24	24	24	24	24	24	24
	90 B14	95	112	115	4	9		4	140	11	24	24	24	24	24	24	24	24	24	24	24	24	24
	100/112 B5	180	112	215	5	14			250	13	28	28	28	28	28	28	28	/	/	/	/	/	/
	100/112 B14	110	112	130	4.5	9			160	11	28	28	28	28	28	28	28	/	/	/	/	/	/
90	80 B5	130	122	165	4.5	11			200	10	/	/	/	/	/	/	/	/	/	/	19	19	19
	80 B14	80	122	100	4	7		4	120	11	/	/	/	/	/	/	/	/	/	/	19	19	19
	90 B5	130	122	165	4.5	11			200	10	24	24	24	24	24	24	24	24	24	24	24	24	24
	90 B14	95	122	115	4	9		4	140	11	24	24	24	24	24	24	24	24	24	24	24	24	24
	100/112 B5	180	122	215	5	14			250	13	28	28	28	28	28	28	28	/	/	/	/	/	/
	100/112 B14	110	122	130	4.5	9			160	11	28	28	28	28	28	28	28	/	/	/	/	/	/
110	90 B5	130	153	165	5	11			200	12	/	/	/	/	/	/	/	24	/	24	24	24	24
	90 B14	95	153	115	5	9		4	140	12	/	/	/	/	/	/	/	24	/	24	24	24	24
	100/112 B5	180	153	215	5	14			250	14	28	28	28	28	28	28	28	28	28	28	28	28	28
	100/112 B14	110	153	130	5	9		4	160	12	28	28	28	28	28	28	28	28	28	28	28	28	28
	132 B5	230	153	265	5	14			300	14	38	38	38	38	38	38	38	/	/	/	/	/	/
	132 B14	130	153	165	5	11			200	12	38	38	38	38	38	38	38	/	/	/	/	/	/

Flangia entrata / Input flange / Antriebsflansch

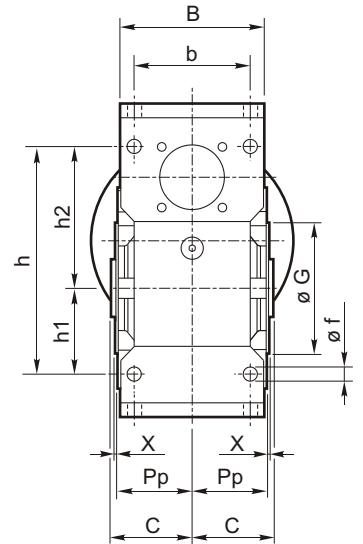
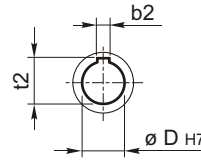
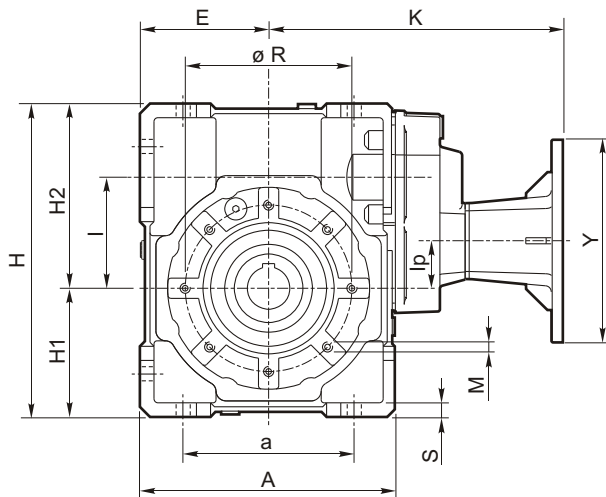


XF	PAM	G ₁	K	R ₁	U ₁	n° Fori / Holes / Bohrungen			Y	Z ₁
						V ₁				
30	56 B5	80	82.5	100	3.5	7	n° 8		120	8
	56 B14	50	82.5	65	3.5	6		n° 4	80	8
	63 B5	95	85.5	115	4	9	n° 8		140	10
	63 B14	60	85.5	75	3.5	6	n° 8		90	8
40	56 B5	80	101.5	100	3.5	7	n° 8		120	8
	63 B5	95	104.5	115	4	9	n° 8		140	10
	63 B14	60	104.5	75	3.5	6	n° 8		90	8
	71 B5	110	111.5	130	4.5	9	n° 8		160	10
	71 B14	70	111.5	85	4	7	n° 8		105	10
50	63 B5	95	119.5	115	4	9	n° 8		140	10
	71 B5	110	126.5	130	4.5	9	n° 8		160	10
	71 B14	70	126.5	85	3.5	7		n° 4	105	10
	80 B5	130	136.5	165	4.5	11	n° 8		200	10
	80 B14	80	136.5	100	4	7	n° 8		120	10
63	71 B5	110	141.5	130	4.5	9	n° 8		160	10
	80/90 B5	130	161.5	165	4.5	11	n° 8		200	10
	80 B14	80	151.5	100	4	7	n° 8		120	10
	90 B14	95	161.5	115	4	9	n° 8		140	10
75	80/90 B5	130	190	165	4.5	11	n° 8		200	10
	90 B14	95	190	115	4	9		n° 4	140	10
	100/112 B5	180	200	215	5	14	n° 8		250	14
	100/112 B14	110	200	130	4.5	9	n° 8		160	10
90	80/90 B5	130	200	165	4.5	11	n° 8		200	10
	90 B14	95	200	115	4	9		n° 4	140	10
	100/112 B5	180	210	215	5	14	n° 8		250	14
	100/112 B14	110	210	130	4.5	9	n° 8		160	10
110	80/90 B5	130	235	165	4.5	11	n° 4		200	12
	100/112 B5	180	245	215	5	14	n° 4		250	14
	132 B5	230	266	265	5	14	n° 4		300	16
	132 B14	130	266	165	4.5	11	n° 4		200	12

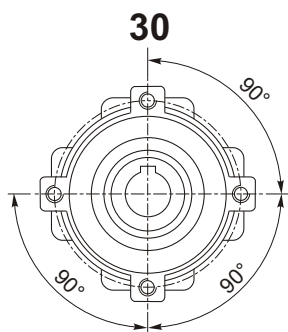
HA



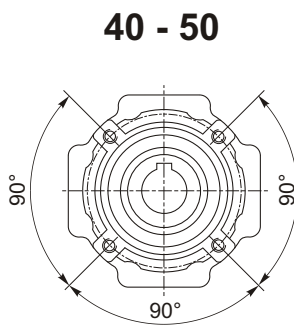
HF



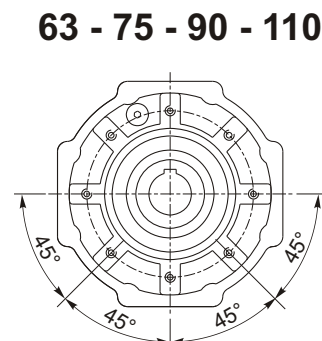
Flangia pendolare / Side cover for shaft mounting / Flansch für Drehmomentstutze



4 Fori / Holes / Bohrungen



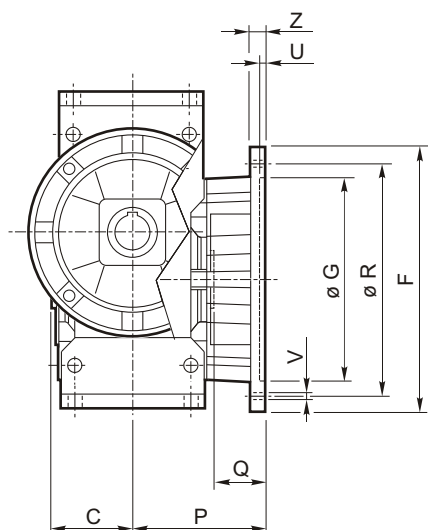
4 Fori / Holes / Bohrungen



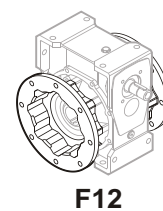
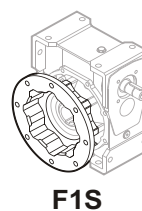
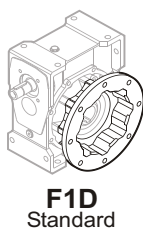
8 Fori / Holes / Bohrungen

	A	a	B	b	b1	b2	C	D	d	E	f	G h8	H	H1	H2	h	h1	h2	I	IP	L	M	M1	N	Pp	R	s	t1	t2	X
40	105	70	71	60	3	6	39	18	9	50	6.5	60	125	50	75	90	35	55	40	5	15	M6X10	M4x12	91.5	36.5	75	6	10.2	20.8	1.5
50	125	80	85	70	4	8	46	25	11	60	8.5	70	150	60	90	104	40	64	50	10	20	M8x10	M4x12	104.5	43.5	85	7	12.5	28.3	1.5
63	147	100	103	85	5	8	56	25	14	72	9	80	182	72	110	130	50	80	63	16.5	25	M8x14	M4x10	121	53	95	8	16	28.3	2
75	176	120	112	90	6	8	60	28	19	86	11	95	219.5	86	133.5	153	60	93	75	22	30	M8x14	M6x16	147.75	57	115	10	21.5	31.3	2
90	203	140	130	100	6	10	70	35	19	103	13	110	248.5	103	145.5	172	70	102	90	37	30	M10x18	M6x16	157.75	67	130	12	21.5	38.3	2
110	252.5	170	143	115	8	12	77.5	42	24	127.5	14	130	310.5	127.5	183	210	85	125	110	47	40	M10x18	M8x22	196.5	74	165	14	27	45.3	2.5

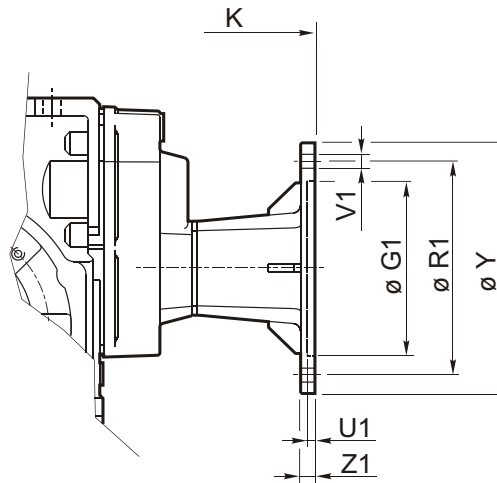
Flangia uscita / Output flange / Abtriebsflansch





Tipo Type Typ	C	F	G (H8)	P	Q	R	U	V	Z	
30	31.5	F1	66	50	54.5	23	68	4	6.5	6
		F2								
		F3								
40	39	F1	85	60	67	28	75-90	4	9	8
		F2	85	60	97	58	75-90	4	9	8
		F3	140	95	80	41	115	5	9	10
50	46	F1	94	70	90	44	85-95	5	11	10
		F2	160	110	89	43	130	5	11	11
		F3								
63	56	F1	142	115	82	26	150	5	11	11
		F2	142	115	112	56	150	5	11	11
		F3	160	110	80.5	24.5	130	5	11	12
75	60	F1	160	130	111	51	165	5	13	12
		F2	160	110	90	30	130	6	11	13
		F3								
90	70	F1	200	152	111	41	175	5	13	12
		F2	200	152	151	81	175	5	13	13
		F3	200	130	110	40	165	6	11	11
110	77.5	F1	260	170	131	53.5	230	6	13	15
		F2	250	180	150	72.5	215	5	15	16
		F3								



Flangia entrata / Input flange / Antriebsflansch

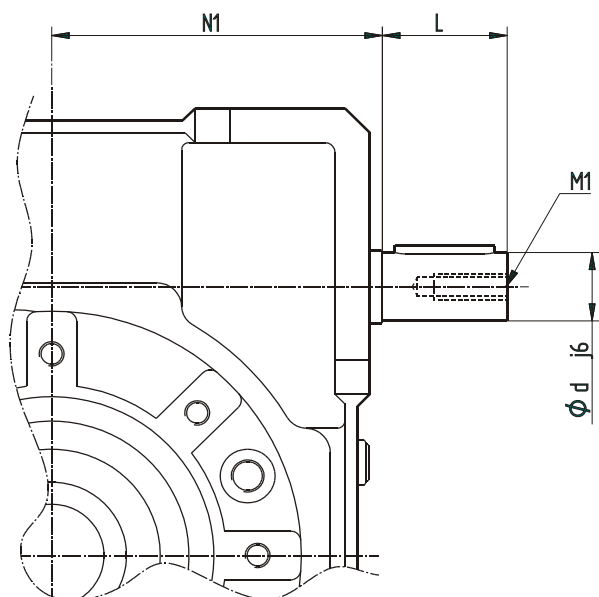


HF	PAM	G ₁	K	R ₁	U ₁	n° Fori / Holes / Bohrungen			Y	Z ₁
						V ₁				
40	56 B5	80	129.5	100	3.5	7	8		120	8
	56 B14	50	129.5	65	3.5	6		4	80	8
	63 B5	95	132.5	115	4	9	8		140	10
	63 B14	60	132.5	75	3.5	6	8		90	8
50	56 B5	80	148.5	100	3.5	7	8		120	8
	63 B5	95	151.5	115	4	9	8		140	10
	63 B14	60	151.5	75	3.5	6	8		90	8
	71 B5	110	158.5	130	4.5	9	8		160	10
	71 B14	70	158.5	85	4	7	8		105	10
63	63 B5	95	173	115	4	9	8		140	10
	71 B5	110	180	130	4.5	9	8		160	10
	71 B14	70	180	85	3.5	7		4	105	10
	80 B5	130	190	165	4.5	11	8		200	10
	80 B14	80	190	100	4	7	8		120	10
75	71 B5	110	211.75	130	4.5	9	8		160	10
	80/90 B5	130	231.75	165	4.5	11	8		200	10
	80 B14	80	221.75	100	4	7	8		120	10
	90 B14	95	231.75	115	4	9	8		140	10
90	71 B5	110	221.75	130	4.5	9	8		160	10
	80/90 B5	130	241.75	165	4.5	11	8		200	10
	80 B14	80	231.75	100	4	7	8		120	10
	90 B14	95	241.75	115	4	9	8		140	10
110	80/90 B5	130	294.5	165	4.5	11	8		200	10
	90 B14	95	294.5	115	4	9		4	140	10
	100/112 B5	180	304.5	215	5	14	8		250	14
	100/112 B14	110	304.5	130	4.5	9	8		160	10

1.7 ESECUZIONE CON VITE
BISPORGENTE

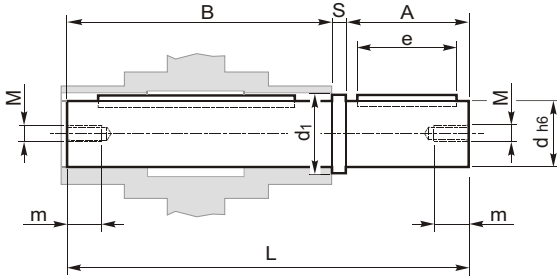
1.7 DOUBLE EXTENDED WORM SHAFT
DESIGN

1.7 VERSIONEN MIT DOPPELSEITIG
HERAUSRAGENDER
SCHNECKENWELLE



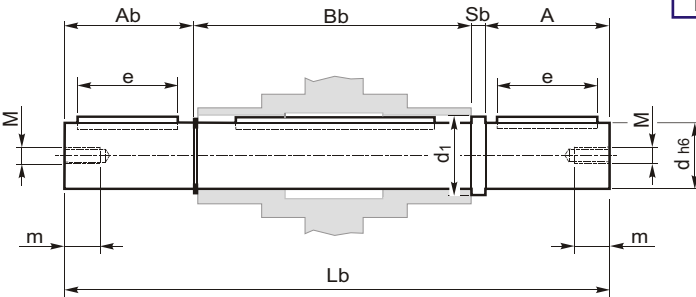
X-H	d j6	L	M1	N1
30	9	15	M4x10	42.5
40	11	20	M4x12	52.5
50	14	25	M5x13	62.5
63	19	30	M8x20	74.5
75	24	40	M8x20	91
90	24	40	M8x20	108
110	28	50	M8x20	132.5

Albero lento semplice
Single output shaft
Standard Abtriebswelle

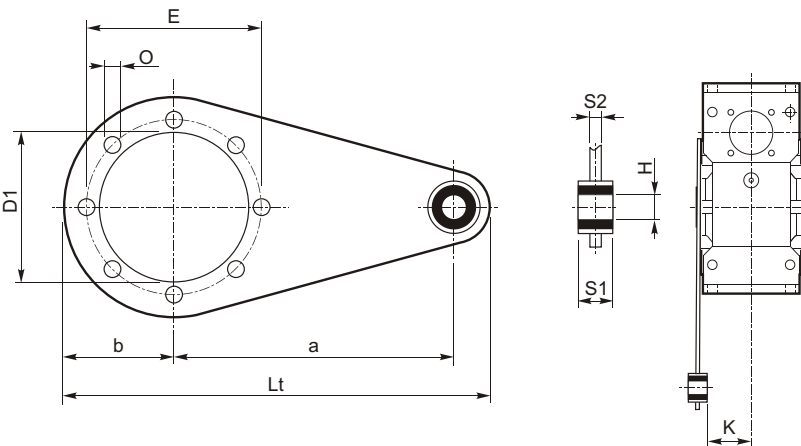


X-H	A	A _b	B	B _b	d	d ₁	e	L	L _b	M	m	S	S _b
30	30	29	62	64	14	18.5	20	94.5	125.5	M6	16	2.5	2.5
40	40	38.8	77	79.2	18	23.5	30	120	161	M6	16	3	3
50	50	50	90	93.2	25	31.5	40	143.5	196.7	M8	22	3.5	3.5
63	50	48.8	111	113.2	25	31.5	40	165	216	M8	22	4	4
75	60	58.5	119	121.5	28	34.5	50	183	244	M8	22	4	4
90	80	78.5	139	141.5	35	41.5	60	224	305	M10	28	5	5
110	80	77.3	154.5	156.9	42	49.5	60	242.5	322	M10	28	8	8

Albero lento doppio
Double output shaft
Doppelte Abtriebswelle



Braccio di reazione
Torque arm
Drehmomentstütze



X-H	a	b	D ₁	E	H	K	L _t	O	S1	S2
30	85	37.5	55	65	8	24	141.5	7	14	4
40	100	45	60	75	10	31.5	167	7	14	4
50	100	50	70	85	10	39	172	9	14	5
63	150	55	80	95	10	49	227	9	14	6
75	200	70	95	115	20	47.5	302	9	25	6
90	200	80	110	130	20	57.5	312	11	25	6
110	250	100	130	165	25	62	390	11	30	6

Opzione disponibili:

- Seconda entrata
- Dispositivo antiritorno
- Calettatore
- Limitatore di coppia cavo passante

Available options:

- Second input
- Backstop device
- Shrink disc
- Through hollow shaft torque limiter

Auf Anfrage ist folgendes Zubehör erhältlich:

- Zweiter Antrieb
- Rücklaufperre
- Schrumpfverbindungsscheibe
- Drehmomentenbegrenzer mit durchgehen mit durchgehender Hohlwelle

CONDIZIONI GENERALI DI GARANZIA	WARRANTY GENERAL CONDITIONS	ALLGEMEINE GARANTIEBEDINGUNGEN
<p>La garanzia relativa a difetti di costruzione ha la durata di un anno dalla data di fatturazione delle merce.</p> <p>Tale garanzia comporta per la TRAMEC l'onere della sostituzione o riparazione delle parti difettose ma non ammette ulteriori addebiti per eventuali danni diretti o indiretti di qualsiasi natura.</p> <p>La garanzia decade quando:</p> <ul style="list-style-type: none"> • non siano state osservate le disposizioni riportate nel manuale di uso e manutenzione • siano state eseguite riparazioni o apportate modifiche senza nostro consenso scritto • sia stata rimossa la targa di identificazione oppure non siano leggibili i dati in essa riportati • il riduttore sia stato aperto o manomesso senza il nostro consenso scritto 	<p>Reducers are covered for manufacturing defects by a one-year warranty from their invoicing date.</p> <p>TRAMEC will replace or repair defective parts but will not accept any further charges for direct or indirect damages of any kind.</p> <p>Warranty will become null and void in the following cases:</p> <ul style="list-style-type: none"> • if the instructions given in the use and maintenance manual are not complied with • if repairs or changes are carried out without our prior written authorization • if the identification plate is removed or if the data contained in it are not legible • if the reducer is unduly opened or tampered with, without our prior written authorization 	<p>Die Garantie auf Herstellungsfehler dauert ein Jahr ab Rechnungsdatum der Ware.</p> <p>Aufgrund dieser Garantie unterliegt der TRAMEC die Pflicht der Ersetzung oder Reparatur der defekten Teilen, jedoch nicht die Übernahme weiterer Belastungen für direkte oder indirekte Schäden egal welcher Natur.</p> <p>Die Garantie verfällt in den folgenden Fällen:</p> <ul style="list-style-type: none"> • Nichtbeachtung der in der betreffenden Betriebs- und Instandhaltungsanleitung angeführten Anweisungen • falls ohne unsere vorausgehende schriftliche Genehmigung Reparaturen oder Änderungen vorgenommen wurden • falls das Typenschild weggenommen wurde oder falls die in dem Schild enthaltenen Daten nicht lesbar sind • falls ohne unsere vorausgehende schriftliche Genehmigung das Getriebe geöffnet oder angegriffen wurde
<p>La merce di ritorno sarà da noi accettata solo se spedita franco di ogni spesa.</p>	<p>Returned goods will be accepted only if delivered free of any charge.</p>	<p>Die an uns zurückgesendete Ware akzeptieren wir nur wenn gebührenfrei geliefert.</p>