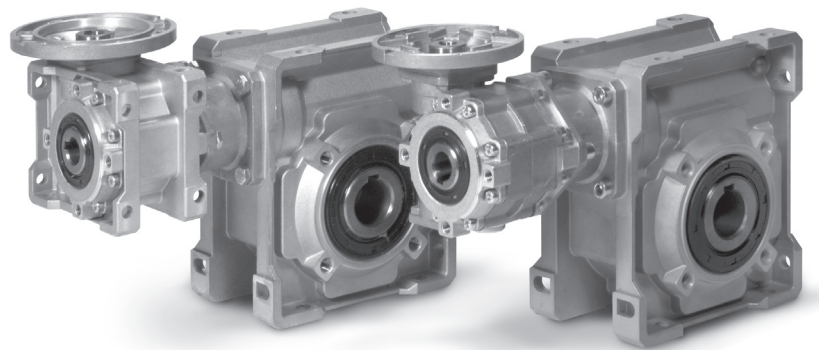
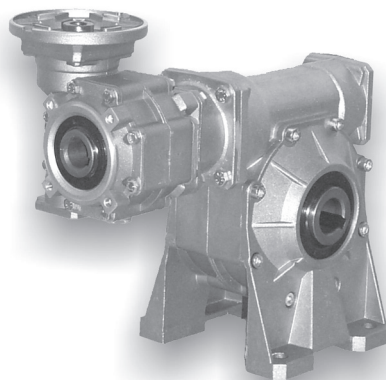


5.0	REDUCTORES TORNILLO SIN FIN COMBINADOS	COMBINED WORM GEARBOXES	RÉDUCTEURS À ROUE ET VIS SANS FIN COMBINÉS
5.1	Características	<i>Characteristics</i>	Caractéristiques 90
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5.6	Tamaño	<i>Dimensions</i>	Dimensions 102
5.7	Limitador de par agujero pasante	<i>Torque limiter with through hollow shaft</i>	Limiteur de couple creux continu 109
5.8	Ejecución con tornillo doble salida	<i>Double extended worm shaft design</i>	Version avec double vis 110
5.9	Accesorios	<i>Accessories</i>	Accessoires 111
5.10	Lista de recambios	<i>Spare parts list</i>	Liste des pièces détachées 112

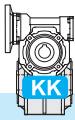


XX

KX



KK



5.1 Características

La combinación de dos reductores de tornillo sin fin comporta rendimientos muy bajos y elevadas reducciones de velocidad, obtenidas en un espacio reducido de tiempo que lo hacen interesante y hasta insustituible en esta condición. Los reductores tornillo sin fin combinados están disponibles en las series KX, XX y KK.

Las series KX y KK están disponibles exclusivamente en las versiones p.a.m.

En cambio la serie XX está disponible en las versiones con eje de entrada saliente XXA y en las dos versiones con predisposición enganche motor de forma compacta XXC o con campana y junta XXF.

Está incluido el eje de salida hueco de serie con una amplia disponibilidad de accesorios: segunda entrada, cojinetes de bolas sobre el engranaje, brida de salida, eje lento con 1 y 2 salidas, limitador de par con agujero pasante, brazo de reacción.

5.1 Characteristics

The combination of two worm gearboxes provides very low efficiency, however the fact that substantial reduction in speed can be obtained in an extremely reduced space makes this solution very interesting and sometimes irreplaceable. Combined worm gearboxes are available in series: KX, XX and KK.

The KX and KK series are available for IEC version only.

The XX series is available in the XXA version with shaft and in two versions with motor coupling: XXC (compact) and XXF (with bell and joint).

The hollow shaft is supplied as standard. A broad range of accessories is available: second input, tapered roller bearings on the worm wheel, output flange, single or double extended output shaft, torque limiter with through hollow shaft, torque arm.

5.1 Caractéristiques

L'utilisation combinée de deux réducteurs à vis sans fin n'offre qu'un très bas rendement. Cependant, l'importante réduction de vitesse obtenue dans un espace limité rend cette solution intéressante et parfois, indispensable. Les réducteurs à roue et vis sans fin combinés sont disponibles dans les séries KX, XX et KK.

Les séries KX et KK sont exclusivement disponibles dans la version p.a.m.

La série XX est disponible dans la version avec arbre XXA et dans les deux versions avec accouplement moteur de forme compacte XXC ou avec cloche et joint XXF.

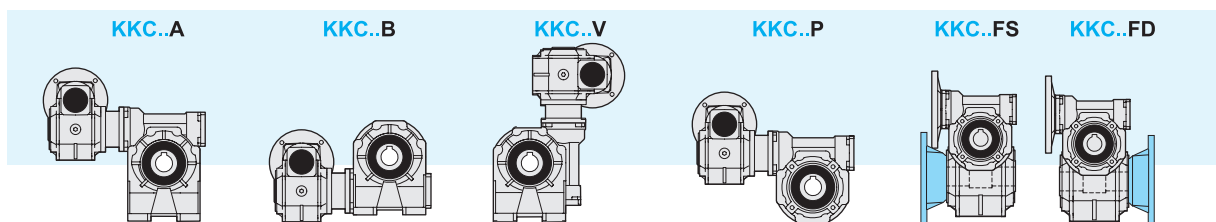
L'arbre de sortie creux est fourni de série. De plus, il existe une vaste gamme d'accessoires : deuxième entrée, roulements coniques sur la roue, bride de sortie, arbre lent avec 1 ou 2 sorties, limiteur de couple creux continu, bras de réaction.

5.2 Nomenclatura

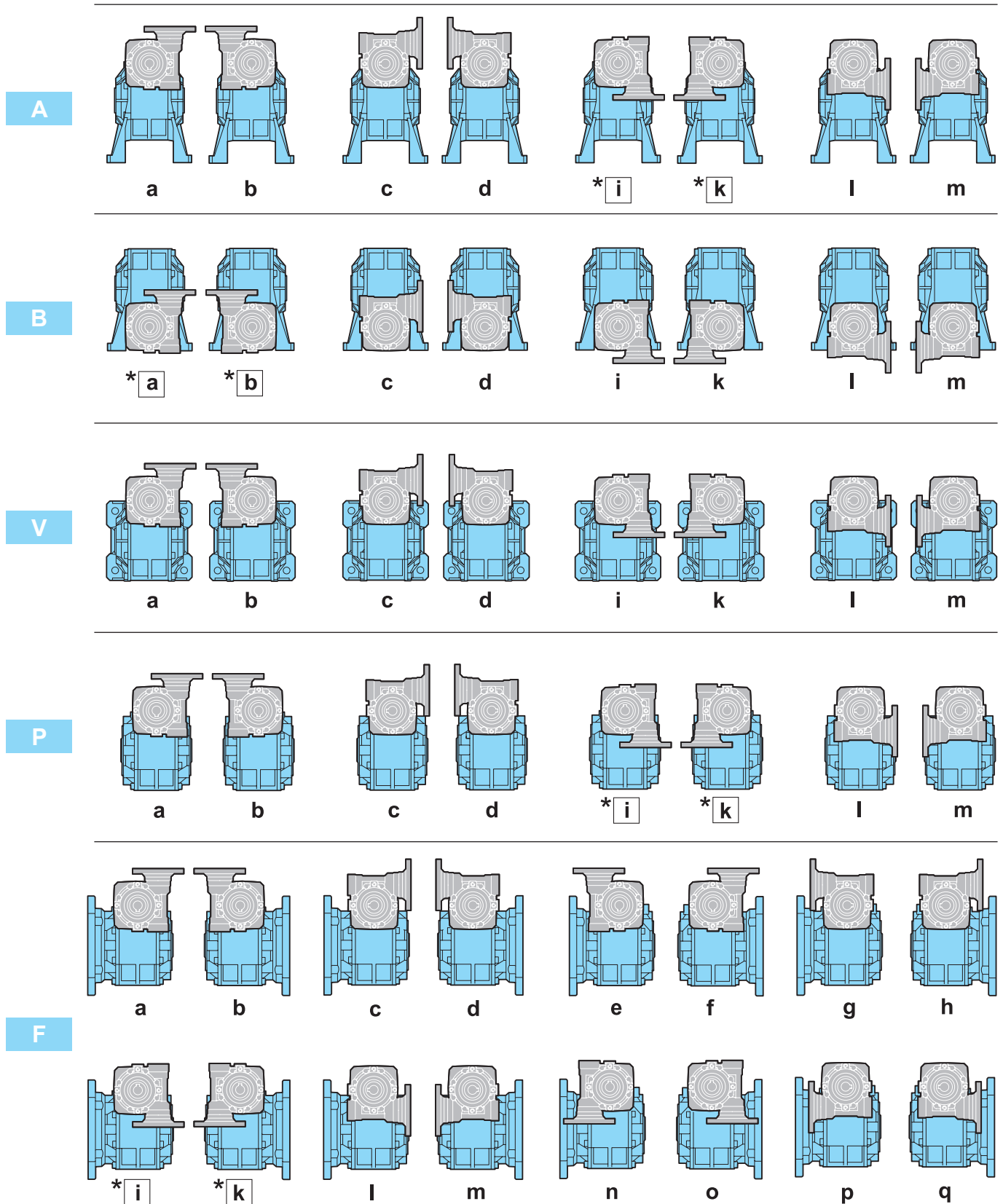
5.2 Designation

5.2 Désignation

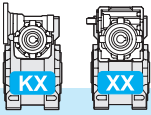
REDUCTORES / GEARBOX / REDUCTEUR												ACCESORIOS ACCESSORIES ACCESSOIRES	
Reductor entrada Gearbox at input Réducteur à l'entrée	Maquina salida Gearbox at output Réducteur à la sortie	Tipo entrada Input type Type d'entrée	Tamaño Size Taille	Relación de red. Ratio Rapport de réduction	Enganche motor. Motor coupling Prédisposition	Versiones Version Version	Forma constructiva Execution Modèle	Posición de monta. Mounting position Position de montage	Eje juego de salida Hollow output shaft Arbre de sortie creux	Limitador de par Torque limiter Limiteur de couple	Segunda entrada Additional input Deuxième entrée	Eje de salida Output shaft Arbre de sortie	Brazo de reacción Torque arm Bras de réaction
K	K	C	50/110	1200	P.A.M.	F1	a	B3	H42	LD	SeA1	SD	BR
Reductor a rueda y tornillo sin fin combinado Combined worm gearbox Réducteur à roue et vis sans fin combiné			30/30 30/40 30/50 30/63 40/63 40/75 40/89 40/90 50/75 50/89 50/90 50/110 63/110 63/130	150 200 300 450 600 900 1200 1500 1950 2500 3250 4000 5000 10000	56 63 71 80 90	F (1-2-3) A (1-2) B (1-2) V (1-2)	ab cd ef gh ik im no pq	B3 B6 B7 B8 V5 V6	ver tablas see tables voir les tableaux	 LD LS	 SeA1 SeA2	 SD SS DD	 BR



Forma costruttiva / version / Modèle




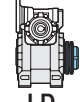
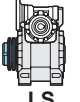
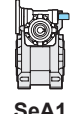
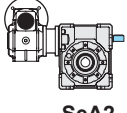




* Forma costruttiva no factibles en: / Version not feasible on: / Modèle non compatible avec :
30/30, 30/40, 30/50 PAM 63B5 (ø 140), 40/63 PAM 71B5 (ø 160)

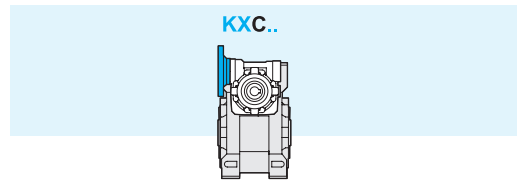





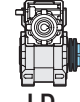
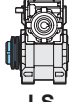
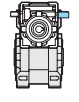
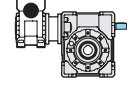




5.2 Nomenclatura

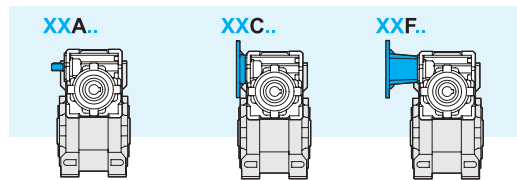
5.2 Designation

5.2 Désignation

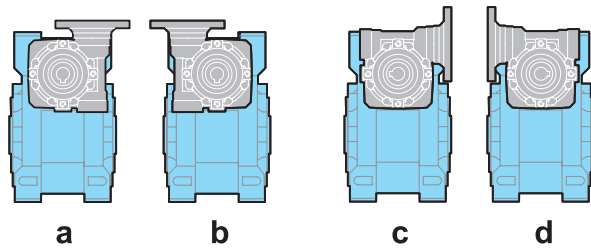
REDUCTORES / GEARBOX / REDUCTEUR												ACCESORIOS ACCESSORIES ACCESSOIRES		
Reductor entrada Gearbox at input Réducteur à l'entrée	Maquina salida Gearbox at output Réducteur à la sortie	Tipo entrada Input type Type d'entrée	Tamaño Size Taille	Relación de red. Ratio Rapport de réduction	Enganche motor. Motor coupling Prédisposition	Versiones Version Version	Forma constructiva Execution Modèle	Posición de monta. Mounting position Position de montage	Eje juego de salida Hollow output shaft Arbre de sortie creux	Limitador de par Torque limiter Limiteur de couple	Segunda entrada Additional input Deuxième entrée	Eje de salida Output shaft Arbre de sortie	Brazo de reacción Torque arm Bras de réaction	
K	X	C	50/110	1200	P.A.M.	F1	a	B3	H42	LD	SeA1	SD	BR	
Reductor a rueda y tornillo sin fin combinado <i>Combined worm gearbox</i> Réducteur à roue et vis sans fin combiné			 C	30/30 30/40 30/50 30/63 40/63 40/75 40/89 40/90 50/75 50/89 50/90 50/110 63/110 63/130	150 200 300 450 600 900 1200 1500 1950 2500 3250 4000 5000 10000	56 63 71 80 90	P F (1-2-3)	ab cd ef gh ik im no pq	B3 B6 B7 B8 V5 V6	ver tablas see tables voir les tableaux	 LD  LS	 SeA1  SeA2	 SD  SS  DD	 BR



REDUCTORES / GEARBOX / REDUCTEUR												ACCESORIOS ACCESSORIES ACCESSOIRES		
Reductor entrada Gearbox at input Réducteur à l'entrée	Maquina salida Gearbox at output Réducteur à la sortie	Tipo entrada Input type Type d'entrée	Tamaño Size Taille	Relación de red. Ratio Rapport de réduction	Enganche motor. Motor coupling Prédisposition	Versiones Version Version	Forma constructiva Execution Modèle	Posición de monta. Mounting position Position de montage	Eje juego de salida Hollow output shaft Arbre de sortie creux	Limitador de par Torque limiter Limiteur de couple	Segunda entrada Additional input Deuxième entrée	Eje de salida Output shaft Arbre de sortie	Brazo de reacción Torque arm Bras de réaction	
X	X	C	50/110	1200	P.A.M.	F1	a	B3	H42	LD	SeA1	SD	BR	
Reductor a rueda y tornillo sin fin combinado <i>Combined worm gearbox</i> Réducteur à roue et vis sans fin combiné			 A  C  F	30/30 30/40 30/50 30/63 40/63 40/75 40/89 40/90 50/75 50/89 50/90 50/110 63/110 63/130	150 200 300 450 600 900 1200 1500 1950 2500 3250 4000 5000 10000	56 63 71 80 90	P F (1-2-3)	ab cd ef gh ik im no pq	B3 B6 B7 B8 V5 V6	ver tablas see tables voir les tableaux	 LD  LS	 SeA1  SeA2	 SD  SS  DD	 BR

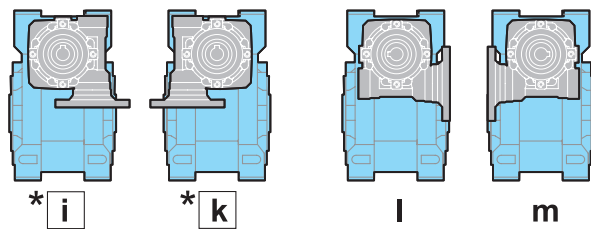


Forma costruttiva / version / Modèle



a b c d

P

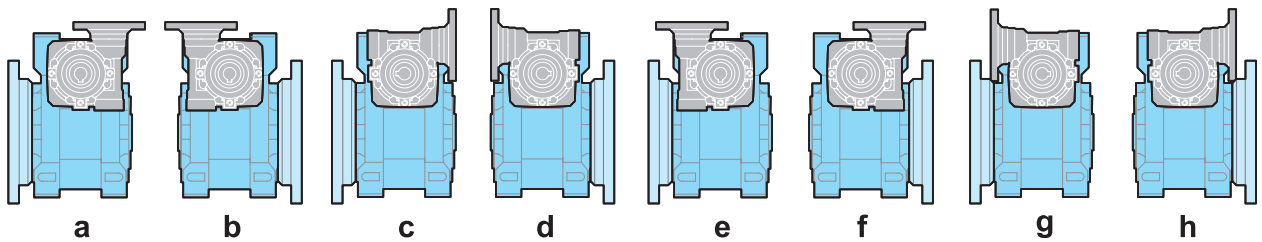


*i *k l m



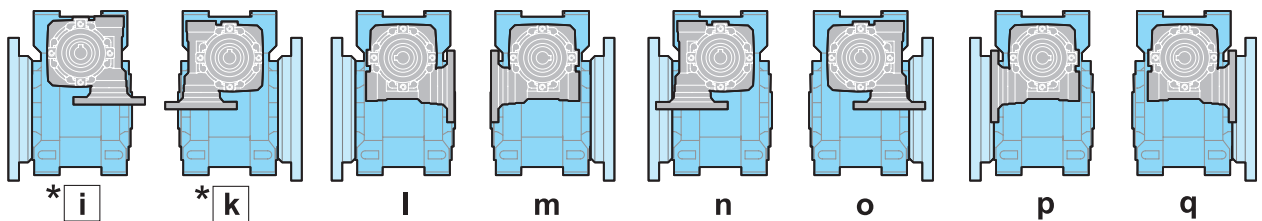
Forma costruttiva no factibles en:
Version not feasible on:
Modèle non compatible avec :

30/30, 30/40, 30/50 PAM 63B5 (ø 140),
40/63 PAM 71B5 (ø 160)

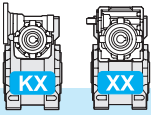


a b c d e f g h

F



*i *k l m n o p q



5.3 Lubricación y posición de montaje

Los reductores tornillos sin fin combinados se entregan completos de lubricante sintético a base PAG con viscosidad ISO VG320. Se recomienda de modo ordenado precisar las fases de la posición de trabajo deseada y la forma constructiva.

Para obtener más detalles, consulte el apartado 1.13 en la pág. 12.

5.3 Lubrication and mounting position

Combined worm gearboxes are supplied with synthetic lubricant, PAG base, viscosity index ISO VG320. Required version and mounting position always to be specified when ordering.

For more details, see page 12, paragraph 1.13.

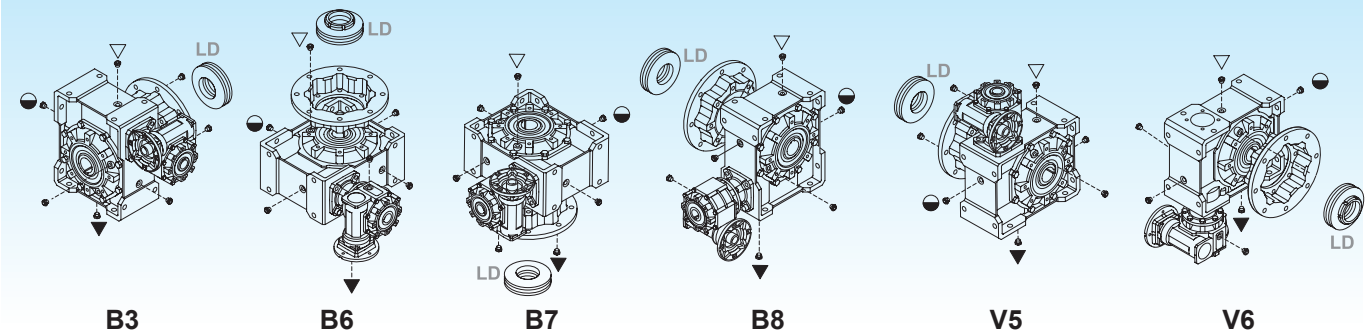
5.3 Lubrification et positions de montage

Les réducteurs à vis sans fin combinés sont livrés avec un lubrifiant synthétique de type PAG ayant un indice de viscosité ISO VG320.

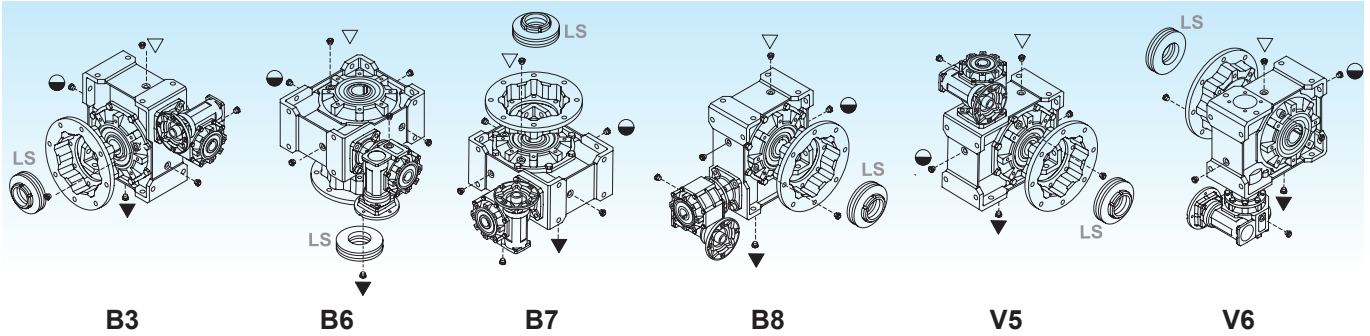
Lors de toute commande, il est recommandé de préciser le modèle et la position de montage désirés. Pour plus de détails, consulter le paragraphe 1.13 à la page 12.

F (b, d, f, h, k, m, o, q)

P (a, b, c, d, i, k, l, m)



F (a, c, e, g, i, l, n, p)



- ▽ Carga y respiradero / Filling and breather / Remplissage
- Nivel / Level / Niveau
- ▼ Descarga / Drain / Vidange

Los cuerpos de aluminio 30, 40, 50, 63, 75 y 89 tiene solamente un tapón de llenado para aceite.

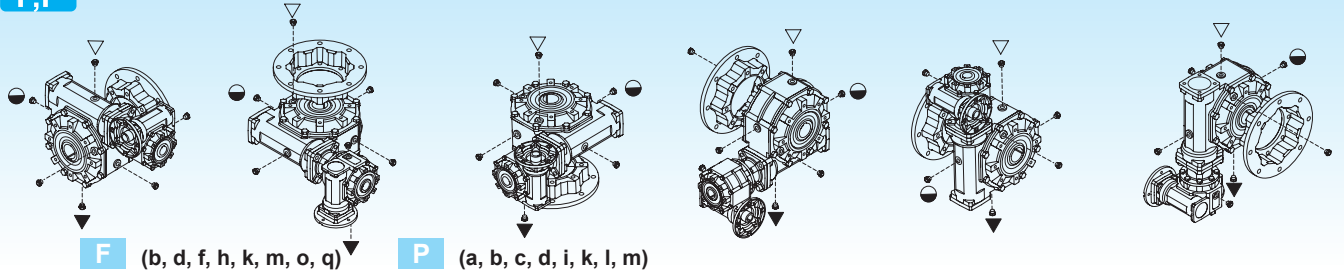
Aluminium housings size 30, 40, 50, 63, 75 and 89 have one filling plug only.

Les carters en aluminium 30, 40, 50, 63, 75 et 89 ont un seul bouchon de remplissage pour l'huile.

			Cant. de aceite / Oil quantity / Q.té d'huile [lt]													
			XXA - XXC - KXC - XXF													
			30/30	30/40	30/50	30/63	40/63	40/75	40/89	40/90	50/75	50/89	50/90	50/110	63/110	63/130
Posición de montaje Mounting positions Positions de montage	B3	IN	0.015				0.04				0.08				0.16	0.4
		OUT	0.015	0.04	0.08	0.16	0.16	0.26	0.45	1.1	0.26	0.45	1.1	2.2	2.2	3.6
	B6	IN	0.015				0.04				0.08				0.16	0.4
		OUT	0.030	0.060	0.120	0.220	0.220	0.34	0.75	0.9	0.26	0.75	0.9	1.8	1.8	3.0
	B7	IN	0.015				0.04				0.08				0.16	0.4
		OUT	0.030	0.060	0.120	0.220	0.220	0.34	0.75	0.9	0.26	0.75	0.9	1.8	1.8	3.0
	B8	IN	0.015				0.04				0.08				0.16	0.4
		OUT	0.015	0.04	0.08	0.16	0.16	0.26	0.45	1	0.26	0.45	1	1.6	1.6	2.5
	V5	IN	0.030				0.06				0.12				0.22	0.22
		OUT	0.015	0.04	0.08	0.16	0.16	0.26	0.45	1.5	0.26	0.45	1.5	2.6	2.6	3.8
	V6	IN	0.030				0.06				0.12				0.22	0.22
		OUT	0.015	0.04	0.08	0.16	0.16	0.26	0.45	1.5	0.26	0.45	1.5	2.6	2.6	3.8

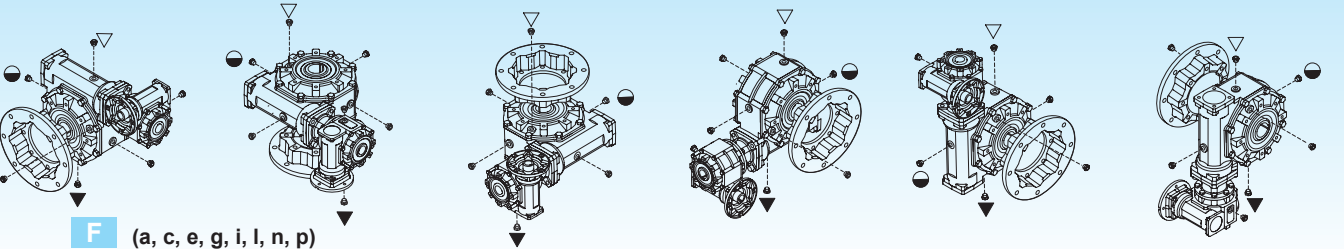
IN = Reductor en entrada / Gearbox at input / Réducteur à l'entrée
 OUT = Reductor en salida / Gearbox at output / Réducteur à la sortie

F,P



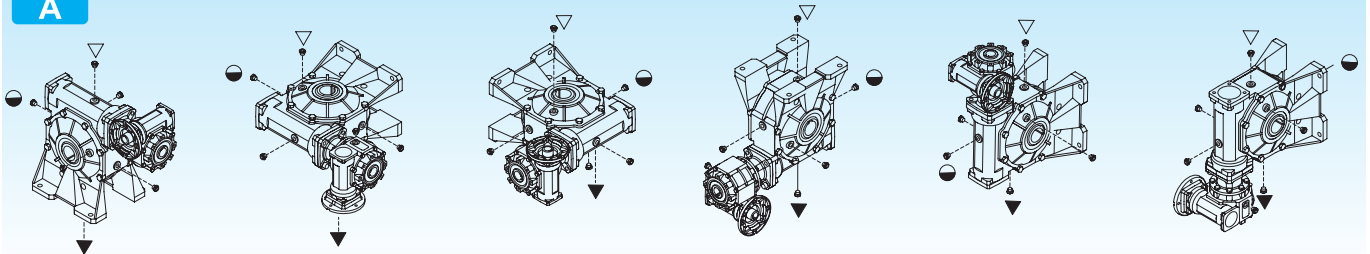
F (b, d, f, h, k, m, o, q)

P (a, b, c, d, i, k, l, m)

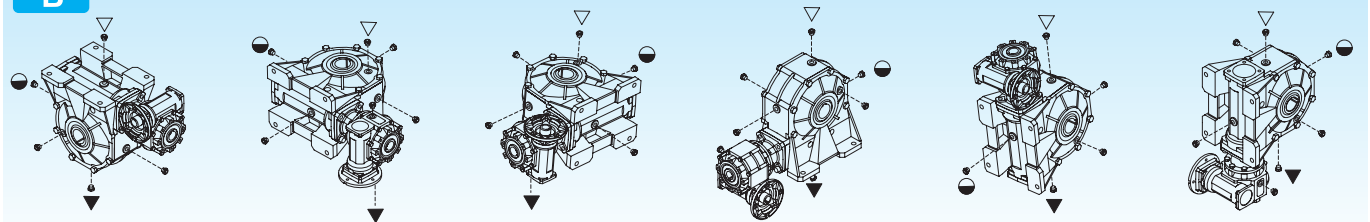


F (a, c, e, g, i, l, n, p)

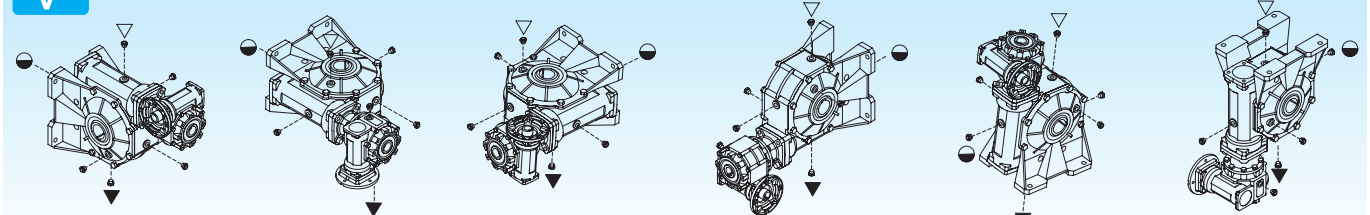
A



B



V



B3

B6

B7

B8

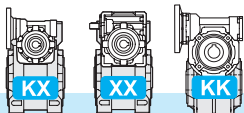
V5

V6

		Cant. de aceite / Oil quantity / Q.té d'huile [lt]													
		KKC													
		30/30	30/40	30/50	30/63	40/63	40/75	40/89	40/90	50/75	50/89	50/90	50/110	63/110	63/130
Posición de montaje Mounting positions Positions de montage	B3	IN	0.015				0.04				0.08			0.16	0.16
		OUT	0.015	0.04	0.08	0.16	0.16	0.26	0.60	1	0.26	1	2	2	3
	B6	IN	0.015				0.04				0.08			0.16	0.4
		OUT	0.030	0.060	0.120	0.220	0.220	0.340	0.70	0.9	0.26	0.9	1.8	1.8	3.0
	B7	IN	0.015				0.04				0.08			0.16	0.4
		OUT	0.030	0.060	0.120	0.220	0.220	0.340	0.70	0.9	0.26	0.9	1.8	1.8	3.0
	B8	IN	0.015				0.04				0.08			0.16	0.16
		OUT	0.015	0.04	0.08	0.16	0.16	0.26	0.60	0.8	0.26	0.8	2	2	2.1
	V5	IN	0.030				0.060				0.120			0.220	0.220
		OUT	0.015	0.04	0.08	0.16	0.16	0.26	0.60	1.5	0.26	1.5	2.6	2.6	3.8
	V6	IN	0.030				0.060				0.120			0.220	0.220
		OUT	0.015	0.04	0.08	0.16	0.16	0.26	0.60	1.5	0.26	1.5	2.6	2.6	3.8

IN = Reductor en entrada / Gearbox at input / Réducteur à l'entrée

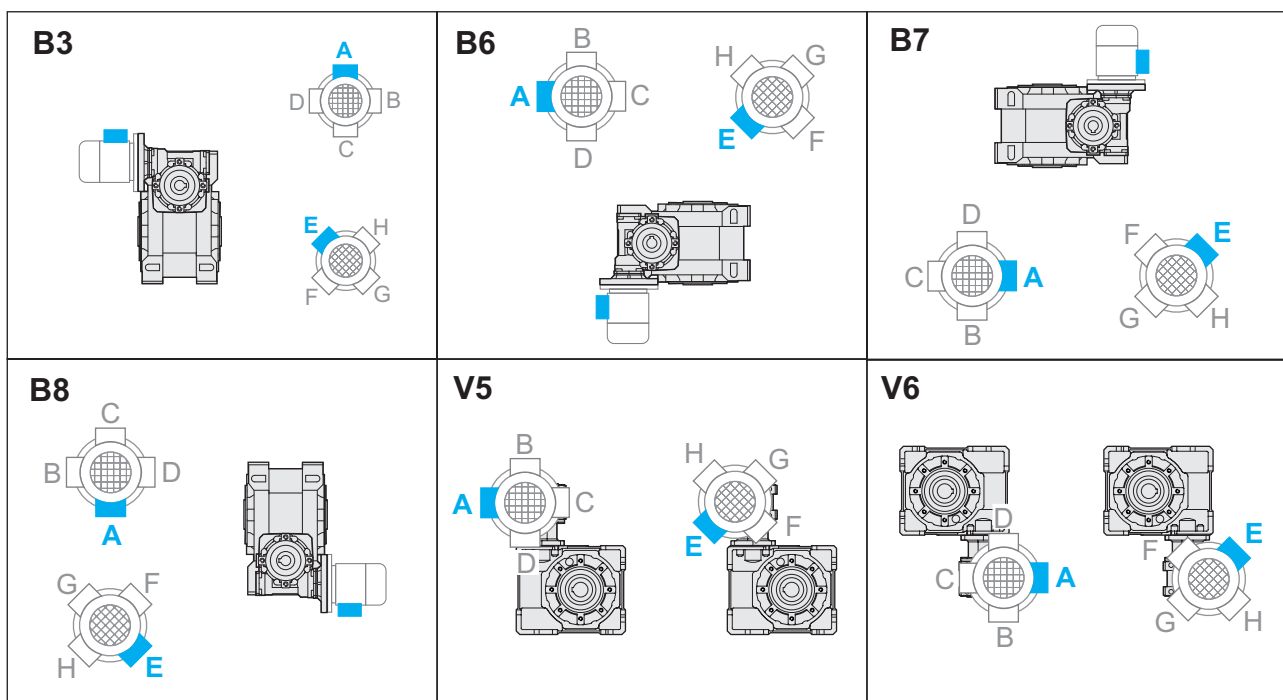
OUT = Reductor en salida / Gearbox at output / Réducteur à la sortie



5.4 Posición del tablero de borne

5.4 Terminal board position

5.4 Position de la boîte à bornes



Especificar siempre y ordenadamente la posición de montaje con su forma constructiva.
 Posición del tablero de borne v. pag. 107-108 (PM=1; PM=2)


Mounting position always to be specified when ordering.
Terminal board position see page 107-108 (PM=1; PM=2)


Lors de toute commande, il est recommandé de préciser la position de montage et le modèle désirés.
 Position de la boîte à bornes v. pag.107-108 (PM=1; PM=2)


5.5 Datos técnicos

5.5 Technical data

5.5 Données techniques

30/30	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	30	30	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC		XF						
											B5/B14		B5		B14				
 3.0	150	10	15	9.3	0.51	37	0.070	32	0.06	1.2	—	63	56	—	63	56	—	63	56
	200		20	7.0	0.47	32	0.050	39	0.06	0.8									
	300				4.7	0.42	39	0.045	52*	0.06									
	450	15		3.1	0.40	39	0.032	73*	0.06	0.5*									
	600			2.3	0.37	39	0.026	91*	0.06	0.4*									
	900	30		1.6	0.34	39	0.019	125*	0.06	0.3*									
	1200			1.2	0.30	39	0.016	149*	0.06	0.3*									
	1500	50		0.9	0.28	39	0.014	173*	0.06	0.2*									
	1950			0.7	0.26	39	0.011	209*	0.06	0.2*									
	2500	65		0.6	0.23	30	0.008	235*	0.06	0.1*									
	3250			0.4	0.21	30	0.006	283*	0.06	0.11*									
	4000	80		0.4	0.20	30	0.005	328*	0.06	0.09*									
	5000			0.3	0.19	30	0.005	385*	0.06	0.08*									
	10000	100	100	0.1	0.15	17	0.002	609*	0.06	0.03*									

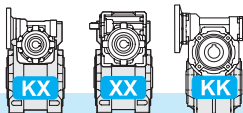
30/40	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	30	40	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC		XF						
											B5/B14		B5		B14				
 4.0	150	10	15	9.3	0.54	82	0.148	72	0.13	1.1	—	63	56	—	63	56	—	63	56
	200		20	7.0	0.51	76	0.110	76	0.11	1.0									
	300				4.7	0.43	82	0.094	79	0.09									
	450	15		3.1	0.40	82	0.067	74	0.06	1.1									
	600			2.3	0.37	82	0.054	92	0.06	0.9									
	900	30		1.6	0.34	82	0.039	126*	0.06	0.6*									
	1200			1.2	0.31	82	0.033	151*	0.06	0.5*									
	1500	50		0.9	0.29	82	0.028	176*	0.06	0.5*									
	1950			0.7	0.27	82	0.023	212*	0.06	0.4*									
	2500	65		0.6	0.23	68	0.017	236*	0.06	0.3*									
	3250			0.4	0.21	68	0.014	285*	0.06	0.24*									
	4000	80		0.4	0.20	68	0.012	330*	0.06	0.21*									
	5000			0.3	0.19	68	0.011	387*	0.06	0.18*									
	10000	100	100	0.1	0.15	35	0.003	626*	0.06	0.06*									

30/50	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	30	50	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC		XF						
											B5/B14		B5		B14				
 6.0	150	10	15	9.3	0.55	149	0.265	124	0.22	1.2	—	63	56	—	63	56	—	63	56
	200		20	7.0	0.52	144	0.201	129	0.18	1.1									
	300				4.7	0.44	150	0.166	118	0.13									
	450	15		3.1	0.42	150	0.118	140	0.11	1.1									
	600			2.3	0.39	150	0.094	143	0.09	1.0									
	900	30		1.6	0.36	150	0.069	131	0.06	1.1									
	1200			1.2	0.32	150	0.058	156	0.06	1.0									
	1500	50		0.9	0.30	150	0.049	182	0.06	0.8									
	1950			0.7	0.28	150	0.041	220*	0.06	0.7*									
	2500	65		0.6	0.25	125	0.030	253*	0.06	0.5*									
	3250			0.4	0.23	125	0.025	305*	0.06	0.41*									
	4000	80		0.4	0.22	125	0.021	354*	0.06	0.35*									
	5000			0.3	0.20	125	0.018	414*	0.06	0.30*									
	10000	100	100	0.1	0.16	69	0.006	645*	0.06	0.11*									

* ATENCION: el par máximo utilizable $[T_{2M}]$ deberá calcularse con respecto al factor de servicio: $T_{2M} = T_2 \times FS'$

* WARNING: Maximum allowable torque $[T_{2M}]$ must be calculated using the following service factor: $T_{2M} = T_2 \times FS'$

* ATTENTION: le couple maximum admissible $[T_{2M}]$ se calcule en utilisant le facteur de service suivant: $T_{2M} = T_2 \times FS'$



5.5 Datos técnicos

5.5 Technical data

5.5 Données techniques

30/63	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	30	63	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC				XF				
											B5/B14		B5		B14				
	150	10	15	9.3	0.56	228	0.400	126	0.22	1.8	—	63	56	—	63	56	—	63	56
	200		20	7.0	0.54	279	0.378	162	0.22	1.7									
	300			4.7	0.46	268	0.285	207	0.22	1.3									
	450	15		3.1	0.43	268	0.202	238	0.18	1.1									
	600		20	2.3	0.40	268	0.162	215	0.13	1.2									
	900	30		1.6	0.37	268	0.118	250	0.11	1.1									
	1200		40	1.2	0.33	268	0.099	243	0.09	1.1									
	1500		50	0.9	0.31	268	0.085	189	0.06	1.4									
	1950	65		0.7	0.29	268	0.071	228	0.06	1.2									
	2500	50		0.6	0.26	222	0.050	265	0.06	0.8									
	3250		65	0.4	0.24	222	0.042	319*	0.06	0.70*									
	4000	80		0.4	0.23	222	0.036	369*	0.06	0.60*									
	5000	100		0.3	0.21	222	0.031	433*	0.06	0.51*									
	10000		100	0.1	0.16	138	0.012	663*	0.06	0.21*									

kg
8.5

40/63	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	40	63	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC				XF				
											B5/B14		B5		B14				
	150	10	15	9.3	0.56	261	0.452	214	0.37	1.2	71	—	—	—	—	—	—	—	—
	200		20	7.0	0.55	279	0.373	277	0.37	1.0									
	300			4.7	0.46	268	0.282	238	0.25	1.1									
	450	15		3.1	0.44	268	0.197	244	0.18	1.1									
	600		20	2.3	0.43	268	0.154	226	0.13	1.2									
	900	30		1.6	0.38	268	0.115	257	0.11	1.0									
	1200		40	1.2	0.36	268	0.091	264	0.09	1.0									
	1500		50	0.9	0.33	268	0.079	203	0.06	1.3									
	1950	65		0.7	0.30	268	0.067	241	0.06	1.1									
	2500	50		0.6	0.28	222	0.047	284	0.06	0.8									
	3250		65	0.4	0.25	222	0.039	338*	0.06	0.66*									
	4000	80		0.4	0.24	222	0.033	400*	0.06	0.55*									
	5000	100		0.3	0.23	222	0.028	471*	0.06	0.47*									
	10000		100	0.1	0.18	138	0.011	722*	0.06	0.19*									

kg
9.5

40/75	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	40	75	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC				XF				
											B5/B14		B5		B14				
	150	10	15	9.3	0.57	409	0.698	322	0.55	1.3	71	—	—	—	—	—	—	—	—
	200		20	7.0	0.56	442	0.583	417	0.55	1.1									
	300			4.7	0.47	418	0.432	358	0.37	1.2									
	450	15		3.1	0.45	418	0.302	346	0.25	1.2									
	600		20	2.3	0.43	418	0.236	390	0.22	1.1									
	900	30		1.6	0.39	418	0.176	309	0.13	1.4									
	1200		40	1.2	0.36	418	0.140	388	0.13	1.1									
	1500		50	0.9	0.34	418	0.121	379	0.11	1.1									
	1950	65		0.7	0.31	418	0.102	368	0.09	1.1									
	2500	50		0.6	0.29	381	0.077	296	0.06	1.3									
	3250		65	0.4	0.26	381	0.065	352	0.06	1.08									
	4000	80		0.4	0.25	381	0.055	417	0.06	0.91									
	5000	100		0.3	0.24	381	0.047	491*	0.06	0.78*									
	10000		100	0.1	0.19	232	0.018	762*	0.06	0.30*									

kg
14.5

* **ATENCIÓN:** el par máximo utilizable $[T_{2M}]$ deberá calcularse con respecto al factor de servicio: $T_{2M} = T_2 \times FS'$

* **WARNING:** Maximum allowable torque $[T_{2M}]$ must be calculated using the following service factor: $T_{2M} = T_2 \times FS'$

* **ATTENTION :** le couple maximum admissible $[T_{2M}]$ se calcule en utilisant le facteur de service suivant : $T_{2M} = T_2 \times FS'$

5.5 Datos técnicos

5.5 Technical data

5.5 Données techniques

50/75	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	50		75	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC							
		i_1	i_2									KC - XC				XF			
				B5/B14		B5		B14		B5		B14							
150	10	15	9.3	0.57	0.57	409	0.750	409	0.75	1.0	80	71	—	80	71	63	80	71	—
200																			
300	15	4.7	0.48	418	0.427	363	0.37	1.2											
450									20	3.1									
600	30	2.3	0.42	418	0.250	418	0.25	1.0											
900									40	1.6									
1200	50	1.2	0.38	418	0.134	406	0.13	1.0											
1500									65	0.9									
1950	50	0.7	0.33	418	0.095	572*	0.13	0.7*											
2500									65	0.6									
3250	80	0.4	0.28	381	0.060	819*	0.13	0.47*											
4000									100	0.4	0.26	381	0.053	939*	0.13	0.41*			
5000	100	0.3	0.25	381	0.045	1108*	0.13	0.34*											
10000									100	0.1	0.19	232	0.018	1719*	0.13	0.13*			

 16.5

40/89	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	40		90	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC							
		i_1	i_2									KC - XC				XF			
				B5/B14		B5		B14		B5		B14							
150	10	15	9.3	0.58	0.58	392	0.659	327	0.55	1.2	71	—	—	71	63	56	71	63	—
200																			
300	15	4.7	0.48	606	0.615	542	0.55	1.1											
450									20	3.1									
600	30	2.3	0.44	606	0.336	457	0.25	1.3											
900									40	1.6									
1200	50	1.2	0.37	606	0.199	668	0.22	0.9											
1500									65	0.9									
1950	50	0.7	0.31	558	0.134	542	0.13	1.0											
2500									65	0.6									
3250	80	0.4	0.28	571	0.094	549	0.09	1.0											
4000									100	0.4	0.27	571	0.079	651	0.09	0.88			
5000	100	0.3	0.25	571	0.067	767*	0.09	0.74*											
10000									100	0.1	0.19	361	0.028	1173*	0.09	0.31*			

 15.4

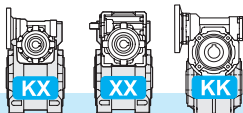
40/90	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	40		90	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC							
		i_1	i_2									KC - XC				XF			
				B5/B14		B5		B14		B5		B14							
150	10	15	9.3	0.58	0.58	435	0.732	327	0.55	1.3	71	—	—	71	63	56	71	63	—
200																			
300	15	4.7	0.48	673	0.683	542	0.55	1.2											
450									20	3.1									
600	30	2.3	0.44	673	0.373	668	0.37	1.0											
900									40	1.6									
1200	50	1.2	0.37	673	0.221	668	0.22	1.0											
1500									65	0.9									
1950	50	0.7	0.31	620	0.149	542	0.13	1.1											
2500									65	0.6									
3250	80	0.4	0.28	634	0.104	549	0.09	1.2											
4000									100	0.4	0.27	634	0.088	651	0.09	0.97			
5000	100	0.3	0.25	634	0.074	767	0.09	0.83											
10000									100	0.1	0.19	401	0.031	1173*	0.09	0.34*			

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* **ATENCIÓN:** el par máximo utilizable [T_{2M}] deberá calcularse con respecto al factor de servicio: $T_{2M} = T_2 \times FS'$

* **WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor: $T_{2M} = T_2 \times FS'$

* **ATTENTION :** le couple maximum admissible [T_{2M}] se calcule en utilisant le facteur de service suivant : $T_{2M} = T_2 \times FS'$



5.5 Datos técnicos

5.5 Technical data

5.5 Données techniques

50/89	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC										
	in	50	90	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC							
		i_1	i_2								KC - XC		XF					
						B5/B14	B5		B14									
150	10	15	9.3	0.59	590	0.980	541	0.90	1.1	80	71	63	80	71	63	80	71	—
200		20	7.0	0.57	638	0.819	584	0.75	1.1									
300	15	30	4.7	0.49	606	0.608	548	0.55	1.1	—	63	80	71	63	80	71	—	
450			3.1	0.46	606	0.426	527	0.37	1.1									
600	20	50	2.3	0.45	606	0.327	463	0.25	1.3	—	63	80	71	63	80	71	—	
900	30		1.6	0.41	606	0.239	632	0.25	1.0									
1200	40	100	1.2	0.39	606	0.191	573	0.18	1.1	—	63	80	71	63	80	71	—	
1500	50		0.9	0.36	606	0.165	662	0.18	0.9									
1950	65	100	0.7	0.34	606	0.135	582	0.13	1.0	—	63	80	71	63	80	71	—	
2500	50		0.6	0.32	571	0.106	701	0.13	0.8									
3250	65	100	0.4	0.30	571	0.087	853*	0.13	0.67*	—	63	80	71	63	80	71	—	
4000	80		0.4	0.28	571	0.076	977*	0.13	0.58*									
5000	100	100	0.3	0.26	571	0.064	1153*	0.13	0.49*	—	63	80	71	63	80	71	—	
10000			0.1	0.20	361	0.027	1764*	0.13	0.20*									

kg
17

50/90	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC										
	in	50	90	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC							
		i_1	i_2								KC - XC		XF					
						B5/B14	B5		B14									
150	10	15	9.3	0.59	655	1.089	541	0.90	1.2	80	71	63	80	71	63	80	71	—
200		20	7.0	0.57	709	0.910	584	0.75	1.2									
300	15	30	4.7	0.49	673	0.675	548	0.55	1.2	—	63	80	71	63	80	71	—	
450			3.1	0.46	673	0.473	527	0.37	1.3									
600	20	50	2.3	0.45	673	0.363	463	0.25	1.5	—	63	80	71	63	80	71	—	
900	30		1.6	0.41	673	0.266	632	0.25	1.1									
1200	40	100	1.2	0.39	673	0.212	573	0.18	1.2	—	63	80	71	63	80	71	—	
1500	50		0.9	0.36	673	0.183	662	0.18	1.0									
1950	65	100	0.7	0.34	673	0.150	582	0.13	1.2	—	63	80	71	63	80	71	—	
2500	50		0.6	0.32	634	0.118	701	0.13	0.9									
3250	65	100	0.4	0.30	634	0.097	853*	0.13	0.74*	—	63	80	71	63	80	71	—	
4000	80		0.4	0.28	634	0.084	977*	0.13	0.65*									
5000	100	100	0.3	0.26	634	0.071	1153*	0.13	0.55*	—	63	80	71	63	80	71	—	
10000			0.1	0.20	401	0.030	1764*	0.13	0.23*									

kg
29

* **ATENCIÓN:** el par máximo utilizable $[T_{2M}]$ deberá calcularse con respecto al factor de servicio: $T_{2M} = T_2 \times FS'$

* **WARNING:** Maximum allowable torque $[T_{2M}]$ must be calculated using the following service factor: $T_{2M} = T_2 \times FS'$

* **ATTENTION :** le couple maximum admissible $[T_{2M}]$ se calcule en utilisant le facteur de service suivant : $T_{2M} = T_2 \times FS'$

5.5 Datos técnicos

5.5 Technical data

5.5 Données techniques

50/110	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	50	110	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC		XF						
											B5/B14		B5		B14				
	150		15	9.3	0.60	785	1.269	557	0.9	1.4	80	71	—	80	71	63	80	71	—
	200	10	20	7.0	0.58	1000	1.265	712	0.9	1.4									
	300			4.7	0.50	1165	1.130	928	0.9	1.3									
	450	15		3.1	0.48	1165	0.791	1105	0.75	1.1									
	600	20		2.3	0.47	1165	0.608	1054	0.55	1.1									
	900	30	30	1.6	0.43	1165	0.445	968	0.37	1.2									
	1200	40		1.2	0.40	1165	0.354	823	0.25	1.4									
	1500	50		0.9	0.37	1165	0.306	952	0.25	1.2									
	1950	65		0.7	0.35	1150	0.248	1018	0.22	1.1									
	2500	50		0.6	0.33	1119	0.200	1009	0.18	1.1									
	3250	65	50	0.4	0.31	1119	0.164	886	0.13	1.26									
	4000	80		0.4	0.29	1119	0.143	1015	0.13	1.10									
	5000	100		0.3	0.27	1119	0.121	1198	0.13	0.93									
	10000	100	100	0.1	0.21	727	0.051	1854*	0.13	0.39*									

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63/110	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	63	110	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC		XF						
											B5/B14		B5		B14				
	150		15	9.3	0.61	1123	1.793	939	1.5	1.2	90	80	—	90	80	71	90	80	—
	200	10	20	7.0	0.59	1229	1.536	1200	1.5	1.0									
	300			4.7	0.51	1165	1.116	1148	1.1	1.0									
	450	15		3.1	0.49	1165	0.781	1119	0.75	1.0									
	600	20		2.3	0.48	1165	0.593	1081	0.55	1.1									
	900	30	30	1.6	0.44	1165	0.433	995	0.37	1.2									
	1200	40		1.2	0.40	1165	0.370	1165	0.37	1.0									
	1500	50		0.9	0.39	1165	0.292	998	0.25	1.2									
	1950	65		0.7	0.37	1165	0.239	1217	0.25	1.0									
	2500	50		0.6	0.34	1119	0.190	1469	0.25	0.8									
	3250	65	50	0.4	0.32	1119	0.156	1792*	0.25	0.62*									
	4000	80		0.4	0.31	1119	0.133	2097*	0.25	0.53*									
	5000	100		0.3	0.28	1119	0.117	2395*	0.25	0.47*									
	10000	100	100	0.1	0.22	727	0.049	3706*	0.25	0.20*									

 52

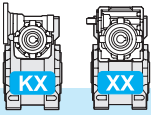
63/130	$n_1 = 1400$					XXA		KXC - XXC - XXF - KKC											
	in	63	130	n_2	Rd	T_{2M}	P	T_2	P_1	FS'	Input - IEC								
		i_1	i_2								KC - XC		XF						
											B5/B14		B5		B14				
	150		15	9.3	0.64	1438	2.2	1176	1.8	1.2	90	80	—	90	80	71	90	80	—
	200	10	20	7	0.61	1831	2.2	1498	1.8	1.2									
	300			4.7	0.53	1890	1.7	1627	1.5	1.2									
	450	15		3.1	0.49	1890	1.3	1655	1.1	1.1									
	600	20		2.3	0.47	1890	0.98	1731	0.9	1.1									
	900	30	30	1.6	0.42	1890	0.73	1934	0.75	1									
	1200	40		1.2	0.39	1890	0.59	1756	0.55	1.1									
	1500	50		0.9	0.36	1890	0.51	2026	0.55	0.9									
	1950	65		0.7	0.34	1890	0.42	1673	0.37	1.1									
	2500	50		0.6	0.33	1920	0.34	2082	0.37	0.9									
	3250	65	50	0.4	0.3	1920	0.29	1663	0.25	1.2									
	4000	80		0.4	0.29	1920	0.24	1978	0.25	1.1									
	5000	100		0.3	0.26	1920	0.22	2217	0.25	0.9									
	10000	100	100	0.1	0.2	1276	0.09	3411	0.25	0.4									

 63

* **ATENCIÓN:** el par máximo utilizable [T_{2M}] deberá calcularse con respecto al factor de servicio: $T_{2M} = T_2 \times FS'$

* **WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor: $T_{2M} = T_2 \times FS'$

* **ATTENTION :** le couple maximum admissible [T_{2M}] se calcule en utilisant le facteur de service suivant : $T_{2M} = T_2 \times FS'$

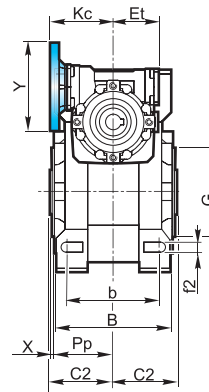
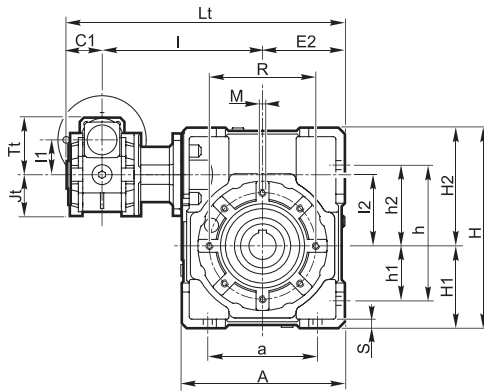


5.6 Tamaño

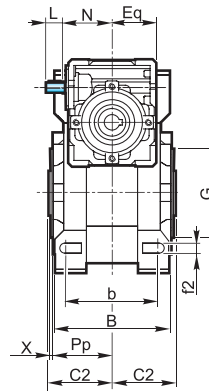
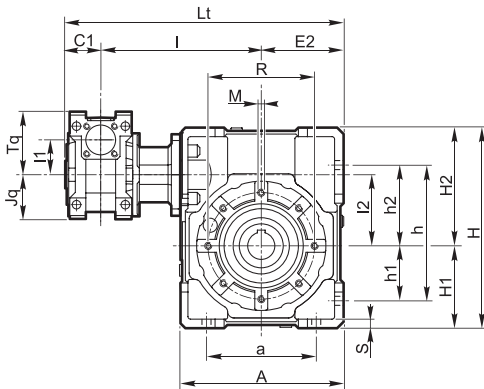
5.6 Dimensions

5.6 Dimensions

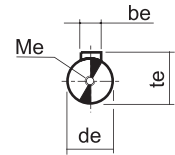
KXC



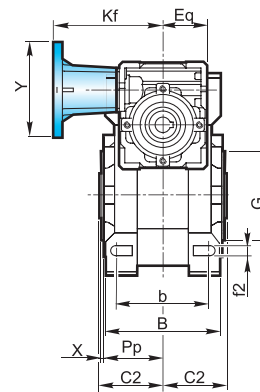
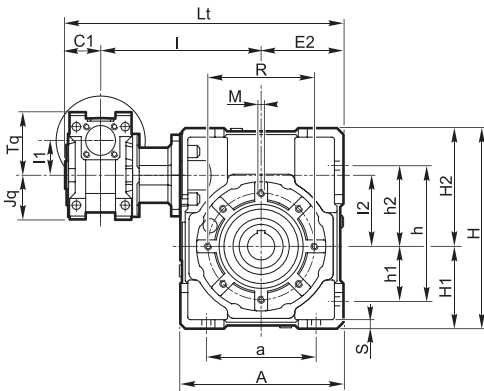
XXA



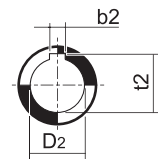
Eje de entrada
Input shaft
Arbre d'entrée



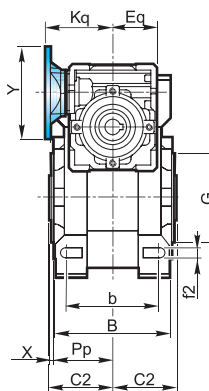
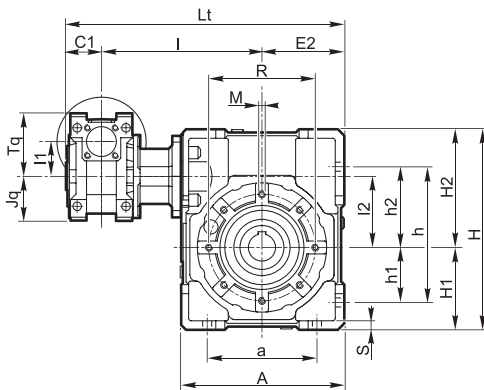
XXF



Eje hueco de consulta
Output hollow shaft
Arbre de sortie creux



XXC

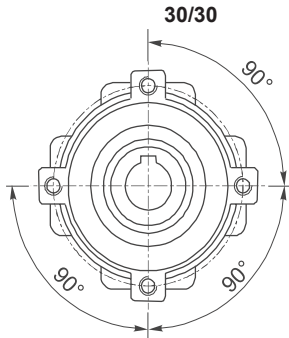


5.6 Tamaño

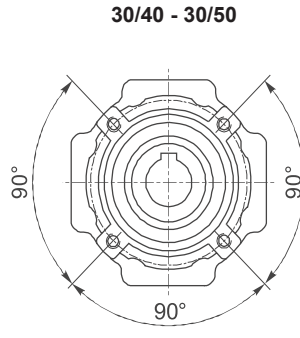
5.6 Dimensions

5.6 Dimensions

Brida pendular / Side cover for shaft mounting / Bride pendulaire

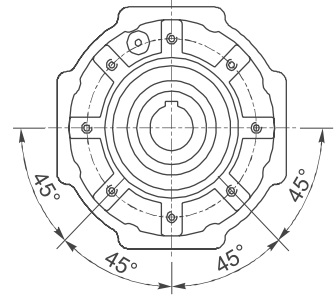


4 Agujeros / Holes / Troux



4 Agujeros / Holes / Troux

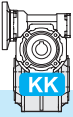
30/63 - 40/63 - 40/75 - 40/89 - 40/90
50/75 - 50/89 - 50/90 - 50/110
63/110 - 63/130



8 Agujeros / Holes / Troux

KXC - XXC - XXF -XXA																							
	a	A	b	be	b ₂	B	C ₁	C ₂	de	D ₂ H8	Et	Eq	E ₂	f ₂	G h8	h	h ₁	h ₂	H	H ₁	H ₂		
30/30	54	80	44	3	5	—	56	31.5	9	14	—	41	40	40	6.5	55	71	27	44	97	40	57	
30/40	70	105	60		6	6	71	39		18	19			50	6.5	60	90	35	55	125	50	75	
30/50	80	125	70		8	8	85	46		24	60			8.5	70	104	40	64	150	60	90		
30/63	100	147	85	4	8	—	103	56	11	—	51	50	72	9	80	130	50	80	182	72	110		
40/63								39					60	86	11	95	153	60	93	219.5	86	133.5	
40/75	120	176	90	5	8	8	112	46	14	28	30	60	60	86	11	95	153	60	93	219.5	86	133.5	
50/75				39				70															103
40/89	140	203	100	4	10	—	130	39	14	35	—	51	50	103	13	110	172	70	102	248.5	103	145.5	
40/90				70				35															51
50/89	170	252.5	115	5	12	—	143	46	14	—	60	60	127.5	14	130	210	85	125	310.5	127.5	183		
50/90				77.5				19														71	72
63/110	170	252.5	115	6	12	—	143	56	77.5	19	42	—	71	72	127.5	14	130	210	85	125	310.5	127.5	183
63/130	200	292.5	120	6	14	14	155	56	85	19	45	48	—	72	147.5	15	180	240	100	140	355	147.5	207.5

KXC - XXC - XXF -XXA																					
	I	I ₁	I ₂	Jt	Jq	K _c	K _q	L	L _t	M	Me	N	P _p	R	S	Tt	Tq	t _e	t ₂	X	
30/30	100	31.5	31.5	37.5	40	57	57	15	171.5	M6x8	M4x10	44.5	29	65	5.5	52.5	57	10.2	16.3	—	1.5
30/40	122		40						203.5	M6x10			36.5	75	6				20.8	21.8	1.5
30/50	132		50						223.5	M8x10			43.5	85	7				27.3	27.3	1.5
30/63	145	63	63	43.5	50	75	75	20	248.5	M8x14	M4x12	57.5	53	95	8	68.5	75	12.5	28.3	—	2
40/63	150								261	M8x14			57	115	10				82.5	90	16
40/75	174.5	40	75	53.5	60	82	82	25	299.5	M8x14	M5x13	67.5	57	115	10	82.5	90	16	31.3	33.3	2
50/75	190	50							322	M8x14											
40/89	184.5	40	90	43.5	50	75	75	20	326.5	M10x18	M4x12	57.5	67	130	12	68.5	75	12.2	38.3	—	2
40/90									399.5												
50/89	200	50	110	53.5	60	82	82	25	399.5	M10x18	M5x13	67.5	74	165	14	82.5	90	16	45.3	—	2.5
50/90									419.5												
63/110	236	63	130	64	72	97	95	30	419.5	M10x18	M8x20	77.5	81	215	15	100.5	110	21.5	48.8	51.8	3
63/130	256	63	130	—	72	97	95	30	459.5	M12x20	M8x20	77.5	81	215	15	—	110	21.5	48.8	51.8	3

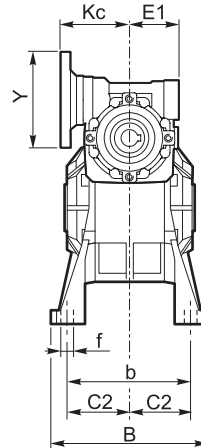
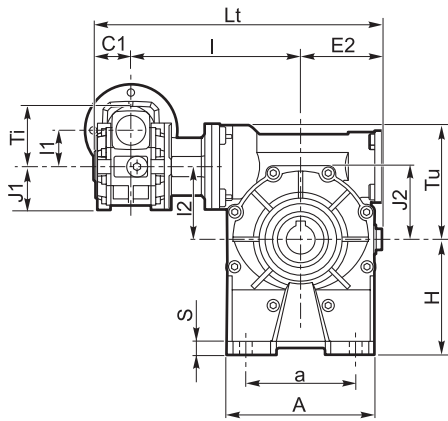


5.6 Tamaño

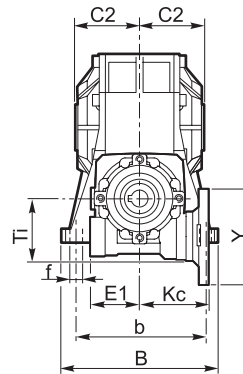
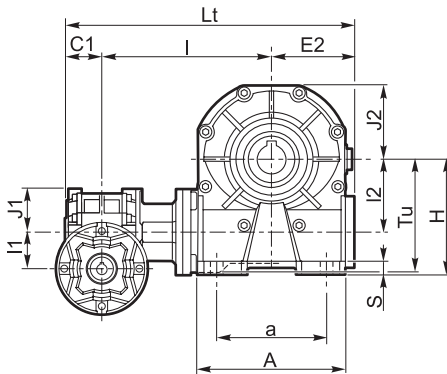
5.6 Dimensions

5.6 Dimensions

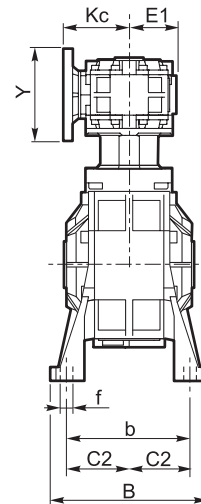
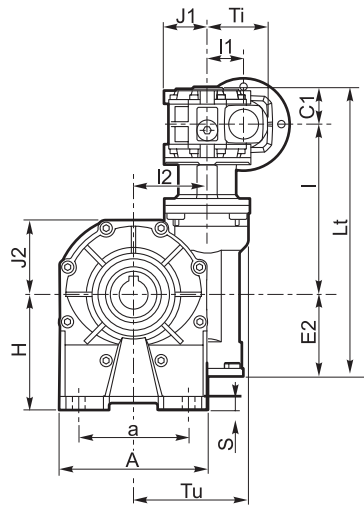
KKC_A



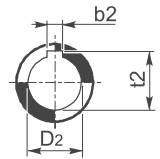
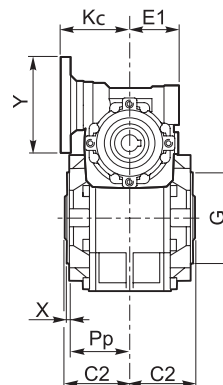
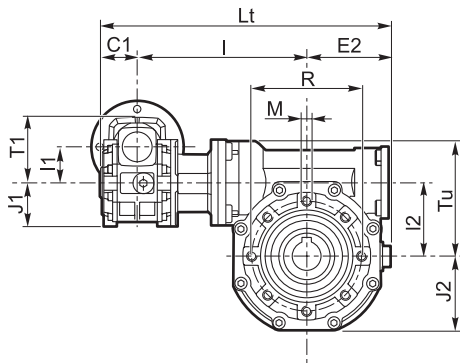
KKC_B



KKC_V



KKC_P



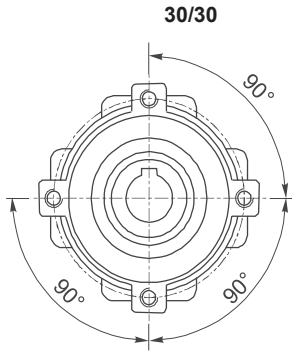
Eje de consulta
Output hollow shaft
Arbre de sortie creux

5.6 Tamaño

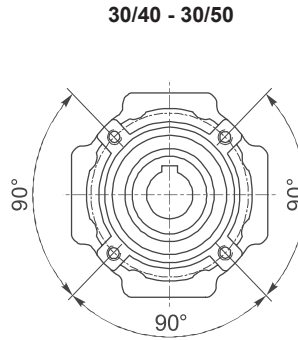
5.6 Dimensions

5.6 Dimensions

Brida pendular / Side cover for shaft mounting / Bride pendulaire

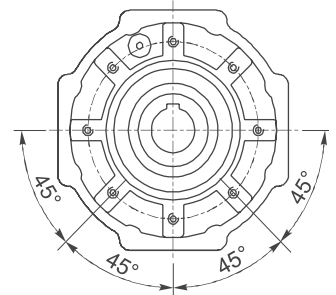


4 Agujeros / Holes / Troux



4 Agujeros / Holes / Troux

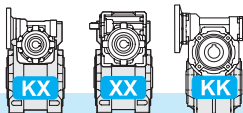
30/63 - 40/63 - 40/75 - 40/90 - 50/75
50/90 - 50/110 - 63/110 - 60/130



8 Agujeros / Holes / Troux

	KKC																									
	A		a		B		b		f		H		S		b ₂	C ₁	C ₂	D2 H8	E ₁	E ₂	G h8					
	1	2	1	2	1	2	1	2	1	2	1	2	1	2												
30/30	67		40-52		78		66		6.5		52	55	5	8	5	—	31.5	31.5	14	—	41	41	55			
30/40	86.5		70	52	98		84	81	7	8.5	71	72	9	10	6	6		39	18	19		51	60	60	70	
30/50	106		63-85		119		99		9		85	82	11	8	8	—		46	25	24		60	70			
30/63	127.5		95		136		111		11		100		12	8	—			56	—		71	80				
40/63																										
40/75	155.5		120		140		115		11		115		12	8	—			39	60	28	30	60	85	95		
50/75																										
40/89	190		140		168	140	146	13	11	135	142		14	10	—			70	35	—	51	103	110			
40/90																										
50/89																										
50/90	250		200		210	162	181	13	13	171	170	17	15	12	—			77.5	42	—	60	127.5	130			
50/110																										
63/110	295		235	220	229	190	191	15		200	195	20	15	14				56	85	45	48	71	147.5	180		
63/130																										

	KKC															
	I	I ₁	I ₂	J ₁	J ₂	K _c	L _t	M	P _p	R	T _i	T _u	t ₂	X		
30/30	100	31.5	31.5	37.5	37.5	57	171.5	M6x8	29	65	52.5	Tu	16.3	—	1.5	
30/40	122		40				43.5	203.5	M6x10	36.5		75	52.5	20.8	21.8	1.5
30/50	132		50				53.5	223.5	M8x10	43.5		85	68.5	27.3	1.5	
30/63	147	40	63	64	75	82	248.5	M8x14	53	95	82.5	82.5	28.3	—	2	
40/63	152															43.5
40/75	176.5	50	75	78	82	82	301.5	M8x14	57	115	82.5	82.5	31.3	—	2	
50/75	192															53.5
40/89	186.5	40	90	100	75	82	328.5	M10x18	67	130	82.5	116.5	38.3	—	2	
40/90																
50/89	202	50	53.5	122	82	97	351	M10x18	74	165	82.5	131.5	45.3	—	2.5	
50/90																
50/110	226	63	110	64	122	97	399.5	M10x18	74	165	100.5	161.5	45.3	—	2.5	
63/110																
63/130	256	63	130	64	131	97	459.5	M12x20	81	215	100.5	181	48.8	51.8	3	

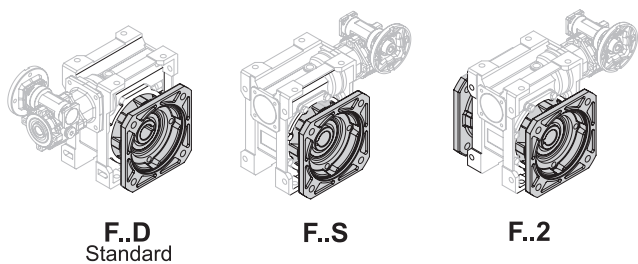
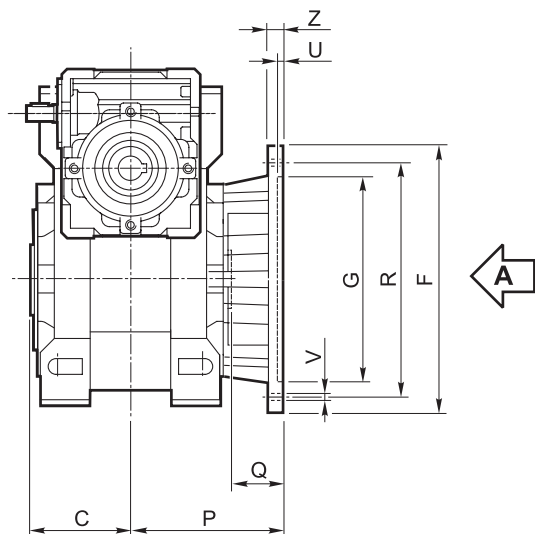


5.6 Tamaño

5.6 Dimensions

5.6 Dimensions

Brida de salida / Output flange / Bride de sortie



Vista de A / View from A / Vue depuis A

30/30		63/130	
F1		F1	
—		F2	
—		—	
30/30		63/130	
30/40	30/50	30/40	30/50
F1	F1	—	—
F2	—	—	F2
—	—	F3	—
30/40 - 30/50			
30/63	40/75	30/63	40/75
40/63	50/75	40/63	50/75
F1	F1	—	—
F2	—	—	F2
—	—	F3	—
30/63 - 40/63 - 40/75 - 50/75			
40/89	50/110	40/89	50/110
40/90	63/110	40/90	50/110
50/89	63/110	50/89	63/110
50/90		50/90	
—	F1	F1	—
—	—	F2	F2
—	—	F3	—
40/89 - 40/90 - 50/89 - 50/90 - 50/110 - 63/110			

KX XX KK	Tipo Type Typ	C	F		G H8	P	Q	R	U	V			Z	
												Ø		
30/30	F1	31.5		66	50	54.5	23	68	4			6.5	6	
30/40	F1	39		85	60	67	28	75-90	4			9	8	
	F2			85	60	97	58	75-90	4			9	8	
	F3		140	95	80	115	41	115	5			9	10	
30/50	F1	46		94	70	90	44	85-100	5			11	10	
	F2		160	110	89	43	130	5			11	11		
30/63 40/63	F1	56		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		
40/75 50/75	F1	60		160	130	111	51	165	5			13	12	
	F2		160	110	90	30	130	6			11	13		
40/89 40/90 50/89 50/90	F1	70		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		
50/110 63/110	F1	77.5		260	170	131	53.5	230	6			n° 8	13	15
	F2			250	180	150	72.5	215	5			15	16	
63/130	F1	85		320	180	140	55	255	7			n° 8 *	16	16
	F2			300	230			265						

* Agujero girado 22.5°

* Drilling turned of 22.5°

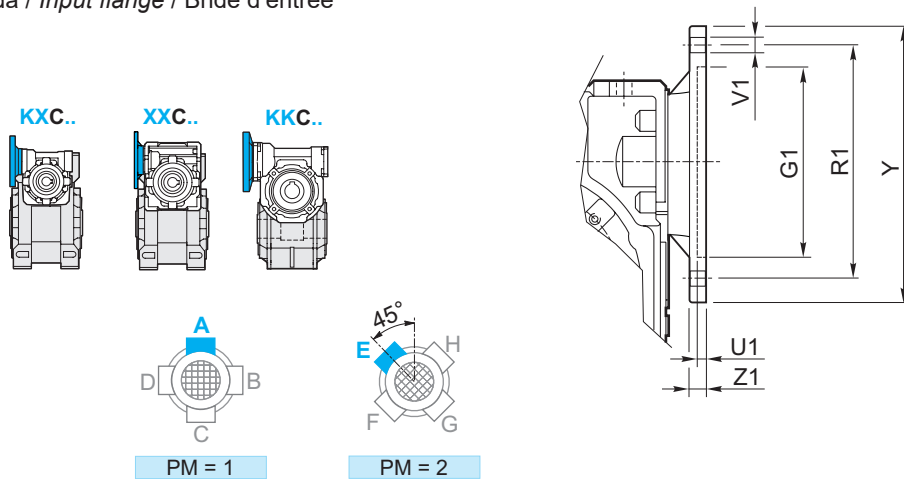
* Perçage tourné de 22,5°




5.6 Tamaño

5.6 Dimensions

5.6 Dimensions

Brida de entrada / Input flange / Bride d'entrée



KXC XXC KKC	IEC	G ₁	PM		R ₁	U ₁	V ₁			Y	Z ₁	Diámetro orificios PAM / Holes diameter IEC / Diamètre des trous PAM														
			1	2			Ø						150	200	300	450	600	900	1200	1500	1950	2500	3250	4000	5000	10000
			30/30 30/40 30/50 30/63	56 B5 56 B14 63 B5 63 B14			80 50 95 60	• • • • • • • •	100 65 115 75			4 3.5 4 4	7 6 9 6	7 8 8 8			120 80 140 90	8 8 8 8	9 9 11 11	9 9 11 11	9 9 11 11	9 9 11 11	9 9 11 11	9 9 11 11	9 9 11 11	9 9 11 11
40/63 40/75 40/89 40/90	56 B5 56 B14 63 B5 63 B14 71 B5 71 B14	80 50 95 60 110 70	• • • • • • • • • • • •	100 65 115 75 130 85	4 3.5 4 3.5 4.5 3.5	7 6 9 6 9 7	7 8 8 4 8 8		4	120 80 140 90 160 105	8 8 8 8 10 8	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14	9 9 11 11 14 14				
50/75 50/89 50/90 50/110	63 B5 63 B14 71 B5 71 B14 80 B5 80 B14	95 60 110 70 130 80	• • • • • • • • • • • •	115 75 130 85 165 100	4 3.5 4 3.5 4.5 4	9 6 9 7 11 7	9 4 8 4 8 8		4	140 90 160 105 200 120	9 8 10 8 10 10	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19	9 9 14 14 19 19				
63/110 63/130	71 B5 71 B14 80 B5 80 B14 90 B5 90 B14	110 70 130 80 130 95	• • • • • • • • • • • •	130 85 165 100 165 115	4.5 3.5 4.5 4 4.5 4	9 7 11 7 11 8.5	9 4 8 4 8 8		4	160 105 200 120 200 140	10 10 10 10 10 10	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24	14 14 19 19 24 24				

N.B.: Es posible también realizar todas las composiciones híbridas obtenibles de las bridas existentes.

N.B.: it is possible to create hybrid combinations with the existing flanges.

N.B. : Il est possible de réaliser des compositions hybrides à partir des brides existantes.

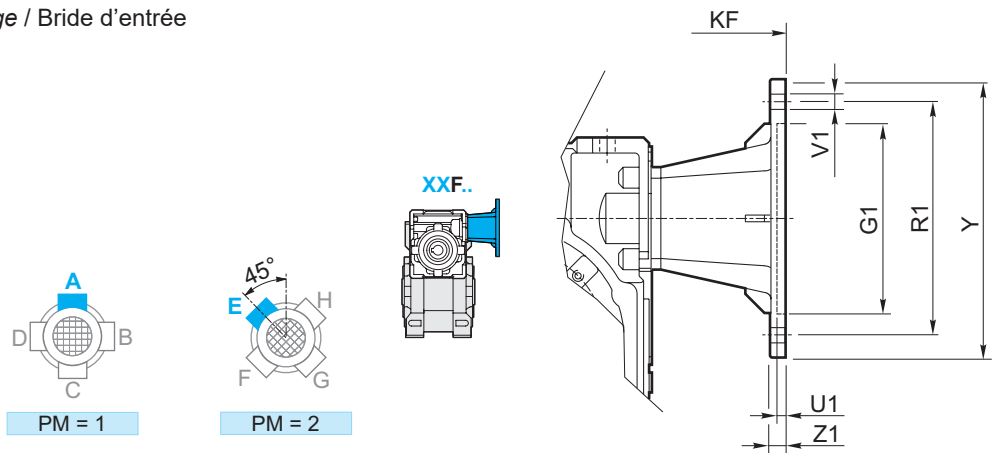


5.6 Tamaño

5.6 Dimensions

5.6 Dimensions

Brida de entrada / *Input flange* / Bride d'entrée



XXF	IEC	PM		G ₁	K _F	R ₁	U ₁	Ø	V ₁			Y	Z ₁
		1	2						Ø	Ø	Ø		
30/30 30/40 30/50 30/63	56 B5	•	•	80	82.5	100	3.5	7		8		120	8
	56 B14		•	50	82.5	65	3.5	6		4		80	8
	63 B5	•	•	95	85.5	115	4	9		8		140	10
	63 B14	•	•	60	85.5	75	3.5	6		8		90	8
40/63 40/75 40/89 40/90	56 B5	•	•	80	101.5	100	3.5	7		8		120	8
	63 B5	•	•	95	104.5	115	4	9		8		140	10
	63 B14	•	•	60	104.5	75	3.5	6		8		90	8
	71 B5	•	•	110	111.5	130	4.5	9		8		160	10
	71 B14	•	•	70	111.5	85	4	7		8		105	10
50/75 50/89 50/90 50/110	63 B5	•	•	95	119.5	115	4	9		8		140	10
	71 B5	•	•	110	126.5	130	4.5	9		8		160	10
	71 B14		•	70	126.5	85	3.5	7		4		105	10
	80 B5	•	•	130	136.5	165	4.5	11		8		200	10
	80 B14	•	•	80	136.5	100	4	7		8		120	10
63/110 63/130	71 B5	•	•	110	141.5	130	4.5	9		8		160	10
	80/90 B5	•	•	130	161.5	165	4.5	11		8		200	10
	80 B14	•	•	80	151.5	100	4	7		8		120	10
	90 B14	•	•	95	161.5	115	4	9		8		140	10

5.7 Limitador de par agujero pasante

Realizados para trabajar en baño de aceite, el dispositivo resulta fiable en el tiempo y es exente a usar si no es mantenido en condiciones prolongadas de deslizamiento (condiciones que se verifican cuando el par tiene valores superiores a los del calibrado).

El calibrado es fácilmente regulable desde el externo, a través de la sujeción de una abrazadera autoblocante que comprime los cuatro resortes a taza dispuestos entre ellos en serie.

El dispositivo no permite:

- El uso de cojinetes de rodillos cónicos en salida.
- funcionamiento prolongando en condiciones de deslizamiento.

En la siguiente tabla se detallan los valores de los pares de deslizamiento M_{2S} en función del n° de giros de la abrazadera.

5.7 Torque limiter with through hollow shaft

Designed to be working in oil bath, the device is reliable over time and is not subject to wear unless in case of operation with prolonged slipping (it occurs when the torque values are higher than the calibration values).

Calibration can be easily adjusted from outside by tightening of the self-locking ring nut, which causes the compression of the 4 Belleville washers arranged in series.

The device does not go together with:

- the use of tapered roller bearings at output
- prolonged operation under slipping conditions

The following table shows the values of M_{2S} slipping torques depending on the number of revolutions of the ring nut.

5.7 Limiteur de couple creux continu

Conçu pour fonctionner en bain d'huile, le dispositif est fiable sur la durée et il ne s'use pas, sauf en cas de glissement prolongé (condition qui se vérifie lorsque le couple présente des valeurs supérieures à celles du calibrage).

Le calibrage se fait facilement depuis l'extérieur en serrant une frette autobloquante qui comprime les 4 rondelles Belleville disposées en série.

Le dispositif ne permet pas :

- l'utilisation de roulements coniques à la sortie.
- le fonctionnement prolongé en condition de glissement.

Dans le tableau ci-dessous sont reportés les valeurs des couples de glissement M_{2S} en fonction du nombre de tours de la frette.

5.7 Limitador de par agujero pasante

5.7 Torque limiter with through hollow shaft

5.7 Limiteur de couple creux continu

XX-KX KK	N°. giros de la abrazadera de regulación / N°. revolutions of ring nut / N°. tours de l'anneau de réglage														
	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	4 1/4	4 1/2
30/30	20	25	30	35	40										
30/40	50	60	70	80	90										
30/50	75	95	115	135	155										
30/63		110	125	145	160	180	200	220	230	245	255	265	285		
40/63															
40/75			220	245	275	310	350	375	410	450					
50/75															
40/89 40/90				330	365	410	435	465	500	530	560	580	600	630	670
50/89 50/90															
50/110		750	860	1000	1100	1230									
63/110															
63/130															

Los valores para calibrar tienen tolerancia del $\pm 10\%$ con referencia a la condición estática.

En condiciones dinámicas se note que el par de deslizamiento asume valores distintos según el tipo y/o modalidad en el cual se verifica la sobrecarga: con valores mayores en caso de cargas uniformemente creciente, con respecto a pesos menores, se debe a picos imprevistos de cargas.

NOTA: Cuando se superan los valores de calibre se obtiene el deslizamiento.

El coeficiente de fricción entre la superficie de contacto del estático deviene dinámico y el par transmitido baja aproximadamente un 30%.

De hecho es oportuno anticipar un stop para así poder iniciar con los valores de base del calibrado.

Calibration values feature a $\pm 10\%$ tolerance and refer to static conditions.

Under dynamic conditions the values of the slipping torque will change according to the type of overload: the values are higher if the load increase is uniform; the values are lower if sudden load peaks occur.

NOTE: Slipping occurs when the setting values are exceeded.

The friction coefficient between the contact surfaces from static becomes dynamic and the transmitted torque is approx. 30% lower.

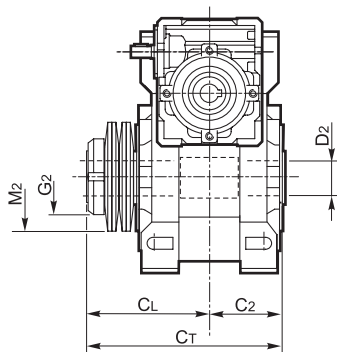
It is advisable to have a stop first in order to have a restart based on the initial setting value.

Les valeurs de calibrage ont une tolérance de $\pm 10\%$ et se réfèrent à une condition statique.

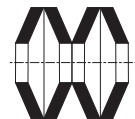
Il faut noter qu'en conditions dynamiques le couple de glissement a des valeurs différentes suivant le type et/ou les modalités de surcharge : les valeurs sont plus élevées si la charge augmente de manière continue, mais elles sont plus basses si l'on a une augmentation soudaine de la charge.

REMARQUE : il y a glissement lorsque la valeur de calibrage est dépassée.

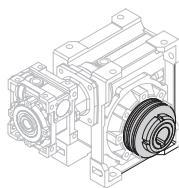
Le coefficient de frottement entre les surfaces passe de statique à dynamique et le couple transmis chute d'environ 30%. Il est donc recommandé de s'arrêter afin de pouvoir repartir sur la base du calibrage initial.



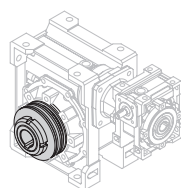
Disposición de los resortes
Washers' arrangement
Position des rondelles



IN SERIE (min. par, max. sensibilidad)
SERIES (min. torque, max sensitivity)
EN SÉRIE (min. couple, max. sensibilité)

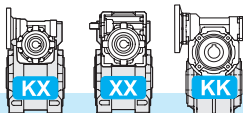


LD



LS

XX - KX LD - LS	C ₂	C _L	C _T	D ₂ H ₈	G ₂	M ₂
30/30	31.5	55.5	87	14	M25x1.5	50x25.4x1.5
30/40	39	65	104	18 (19)	M30x1.5	56x30.5x2
30/50	46	76	122	25 (24)	M40x1.5	63x40.5x2.5
30/63 40/63	56	91	147	25	M40x1.5	71x40.5x2.5
40/75 50/75	60	100	160	28 (30)	M50x1.5	90x50.5x3.5
40/89 - 40/90 50/89 - 50/90	70	109	179	35 (32)	M50x1.5	100x51x3.5
50/110 63/110	77.5	127.5	205	42	M60x2	125x61x5
63/130						

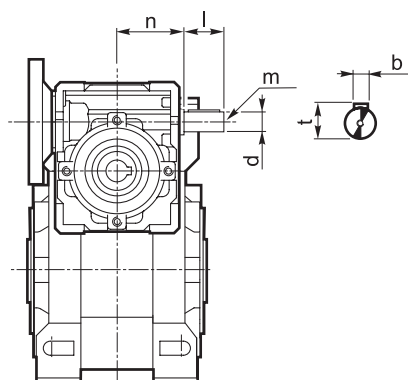


5.8 Ejecución con tornillo doble salida

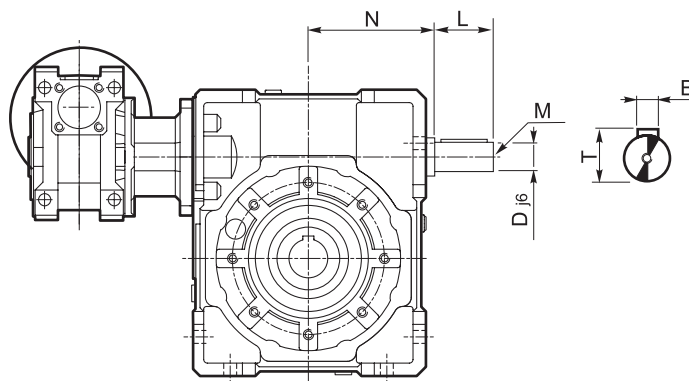
5.8 Double extended worm shaft design

5.8 Version avec double vis

SeA1



SeA2



La entrada suplementaria del reductor de salida (SeA2) no puede ser utilizada como comando, siendo que el relativo movimiento resulta ser impedido por la irreversibilidad del primer reductor. Utilizado como eje conductor, la velocidad existente corresponderá a la de ingreso, reducida por la relación del primer reductor.

The second input shaft of the output gearbox (SeA2) can not be utilized as a drive because its motion will be stopped by the reversibility of the first gearbox. If utilized as a drive shaft its speed will be equal to the input speed decreased by the ratio of the first gearbox.

L'entrée supplémentaire du réducteur en sortie (SeA2) ne peut pas être utilisée en tant que commande car son mouvement est gêné par l'irréversibilité du premier réducteur. S'il est utilisé comme arbre secondaire, sa vitesse correspondra à celle en entrée, mais elle sera diminuée par le rapport du premier réducteur.

KXC - XXC XXF - XXA KKC	SeA1							SeA2						
	b	d j6	l	m	n		t	B	D j6	L	M	N		T
					KK-KX	XX						KK	KX-XX	
30/30	3	9	15	M4x10	42.5	42.5	10.2	3	9	15	M4x10	42.5	42.5	10.2
30/40	3	9	15	M4x10	42.5	42.5	10.2	4	11	20	M4x12	52.5	52.5	12.5
30/50	3	9	15	M4x10	42.5	42.5	10.2	5	14	25	M5x13	62.5	62.5	16
30/63	3	9	15	M4x10	42.5	42.5	10.2	6	19	30	M8x20	72.5	74.5	21.5
40/63	4	11	20	M4x12	52.5	52.5	12.5	6	19	30	M8x20	72.5	74.5	21.5
40/75	4	11	20	M4x12	52.5	52.5	12.5	8	24	40	M8x20	89	91	27
50/75	5	14	25	M5x13	62.5	62.5	16	8	24	40	M8x20	89	91	27
40/89 40/90	4	11	20	M4x12	52.5	52.5	12.5	8	24	40	M8x20	108	108	27
50/89 50/90	5	14	25	M5x13	62.5	62.5	16	8	24	40	M8x20	108	108	27
50/110	5	14	25	M5x13	62.5	62.5	16	8	28	50	M8x20	132	132	31
63/110	6	19	30	M8x20	72.5	74.5	21.5	8	28	50	M8x20	132	132	31
63/130	6	19	30	M8x20	72.5	74.5	21.5	10	38	70	M10x25	152	152	41

5.9 Accesorios

5.9 Accessories

5.9 Accessoires

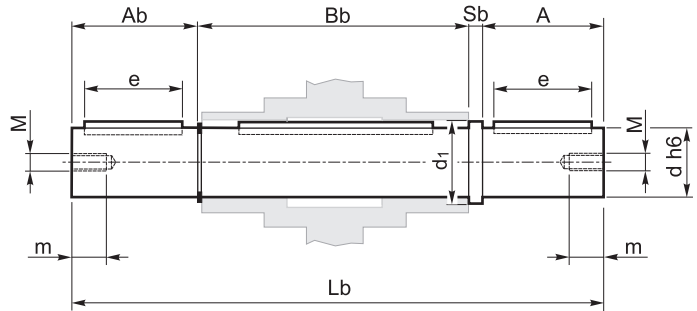
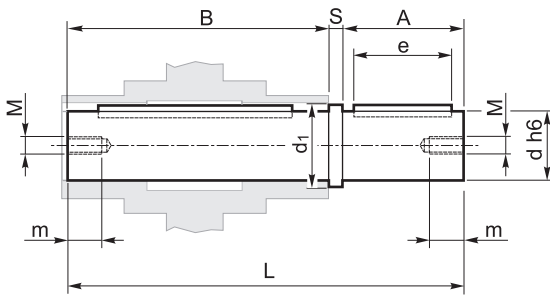
Eje lento

Output shaft

Arbre lent

Eje lento simple
Single output shaft
Arbre lent simple

Eje lento doble
Double output shaft
Arbre lent double

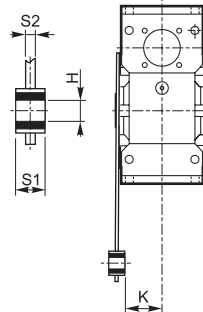
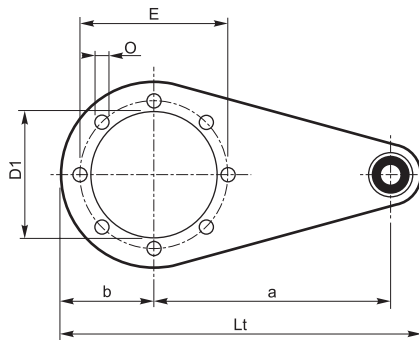


KK-KX-XX	A	B	d _{h6}	d ₁	e	L	M	m	S	A	A _b	B _b	d _{h6}	d ₁	e	L _b	S _b
30/30	30	62	14	18.5	20	94.5	M6	16	2.5	30	29	64	14	18.5	20	126	2.5
30/40	40	77	18	19	23.5	120	M6	16	3	40	39	79	18	23.5	30	161	3
30/50	50	90	25	24	31.5	143.5	M8	22	3.5	50	49	93	25	31.5	40	195.5	3.5
30/63 40/63	50	111	25	31.5	40	165	M8	22	4	50	49	113	25	31.5	40	216	4
40/75 50/75	60	119	28	30	34.5	183	M8	22	4	60	59	121	28	34.5	50	244	4
40/89 - 40/90 50/89 - 50/90	80	139	35	41.5	60	224	M10	28	5	80	78.5	141.5	35	41.5	60	305	5
50/110 63/110	80	154.5	42	49.5	60	242.5	M10	28	8	80	77.5	157	42	49.5	60	322.5	8
63/130	80	168	45	54.5	70	253	M16	36	5	80	78	172	45	54.5	70	335	5

Brazo de reacción

Torque arm

Bras de réaction



KK KX XX	a	b	D ₁	E	H	K	L _t	O	S1	S2
30/30	85	37.5	55	65	8	24	141.5	7	14	4
30/40	100	45	60	75	10	31.5	167	7	14	4
30/50	100	50	70	85	10	39	172	9	14	5
30/63 40/63	150	55	80	95	10	49	227	9	14	6
40/75 50/75	200	70	95	115	20	47.5	302	9	25	6
40/89 - 40/90 50/89 - 50/90	200	80	110	130	20	57.5	312	11	25	6
50/110 63/110	250	100	130	165	25	62	390	11	30	6
63/130	250	125	180	215	25	69	415	13	30	6

Kit de protección: solo en versión P

Protection Kit: only for P version

Kit de protection : uniquement sur la version P

Eje hueco / Hollow shaft / Arbre creux

Limitador de par / Torque limiter / Limiteur de couple

KK KX XX	A		B		C	
	IN	OUT	IN	OUT	IN	OUT
30/30		12		13		39
30/40	12	14	13	15.5	39	44
30/50		15		16.5		54
30/63		17		19		60
40/63	14		15.5		44	
40/75		18		20		70
50/75	15		16.5		54	
40/89 - 40/90 50/89 - 50/90	14	21.5	15.5	24	44	80
50/110	15		16.5		54	
63/110	17	22	19	25	60	96
63/130	17	22	19	25	60	130

KK KX XX	A		B		C	
	IN	OUT	IN	OUT	IN	OUT
30/30		36		37		36
30/40	36	40	37	41.5	36	44
30/50		47		48.5		53
30/63		52		54		55
40/63	40		41.5		44	
40/75		58		60		68
50/75	47		48.5		53	
40/89 - 40/90 50/89 - 50/90	40	60.5	41.5	63	44	70
50/110	47		48.5		53	
63/110	52	72	54	75	55	85
63/130	52		54		55	

Opciones disponibles:

Available options:

Options disponibles :

Cojinetes de rodillos cónicos corona

Tapered roller bearing on wormgear

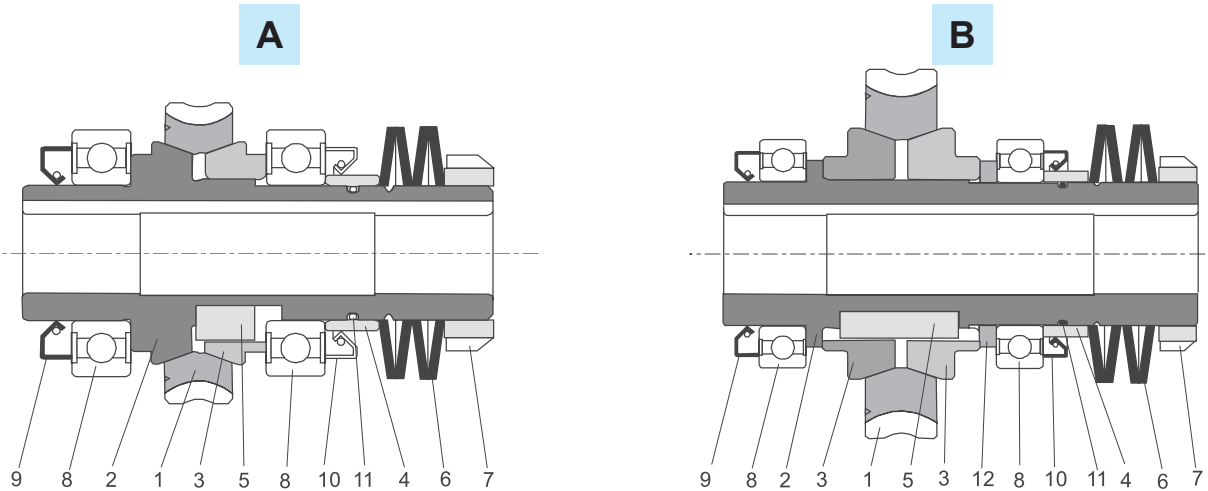
Roulements coniques sur la roue

X - H - K - KX - XX - KK

Limitador de par agujero pasante

Torque limiter with through hollow shaft

Limiteur de couple creux continu



A			B				
X - H - K							
30 (LD - LS)	40 (LD - LS)	50 (LD - LS)	63 (LD - LS)	75 (LD - LS)	90 (LD - LS)	110 (LD - LS)	130 (LD - LS)
KX - XX - KK							
30/30 (L1-LD-LS) 30/40 (L1) 30/50 (L1) 30/63 (L1)	30/40 (LD - LS) 40/63 (L1) 40/75 (L1) 40/89 (L1) 40/90 (L1)	30/50 (LD - LS) 50/75 (L1) 50/89 (L1) 50/90 (L1) 50/110 (L1)	30/63 (LD - LS) 40/63 (LD - LS) 63/110 (L1)	40/75 (LD - LS) 50/75 (LD - LS)	40/90 (LD - LS) 50/90 (LD - LS)	50/110 (LD - LS) 63/110 (LD - LS)	63/130 (LD - LS)
1 Corona in bronzo / Bronze wheel / Bronzerad /							
2 Albero cavo limitatore / Hollow shaft torque limiter / Rutschkupplungs-Hohlwelle							
3 Anello di frizione / Friction ring / Reibring							
4 Distanziale molle / Washers' distance ring / Federdistanzring							
5 Linguetta / key / Passfeder							
8x7x10AB	10x8x13AB	12x8x18AB	12x8x40A	16x10x40A	16x10x50A	18x11x60A	
6 Molle a tazza / Belleville washers / Tellerfeder							
7 Ghiera / Metal ring / Metall Ring							
6005 25x47x12	6006 30x55x13	6008 40x68x15	6008 40x68x15	6010 50x80x16	6010 50x80x16	6012 60x95x18	
9 25x40x7	30x47x7	40x62x8	40x62x8	50x72x8	50x72x8	60x85x8	
10 30x40x5	35x47x7	48x62x8	48x62x8	58x72x8	58x72x8	70x85x8	
11 OR2087 21.95x1.78	OR2106 26.7x1.78	OR 36.27x1.78	OR 36.27x1.78	OR2187 47.37x1.78	OR2187 47.37x1.78	OR2225 56.87x1.78	
12 —			Distanziale / Spacer / Abstandshülse				

