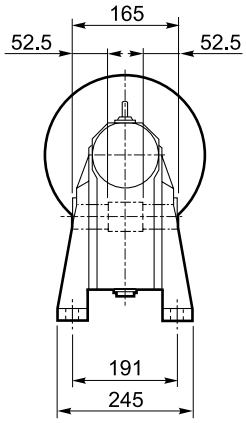
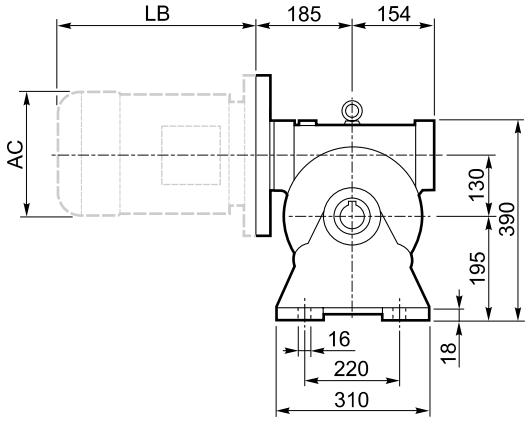
A





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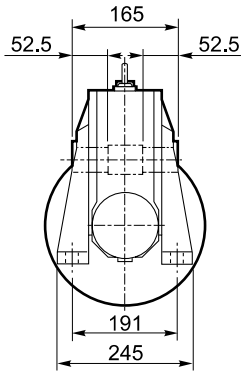
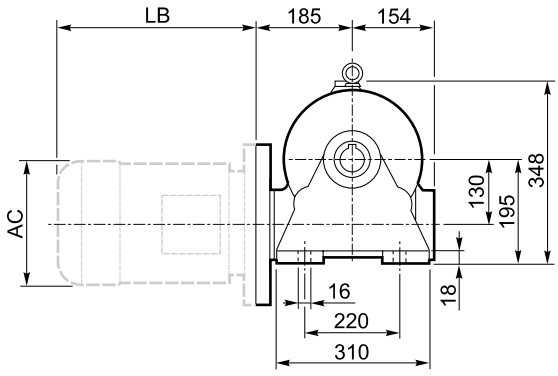
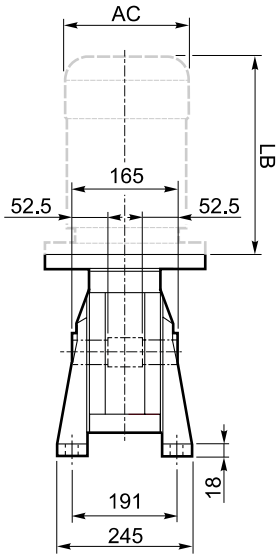
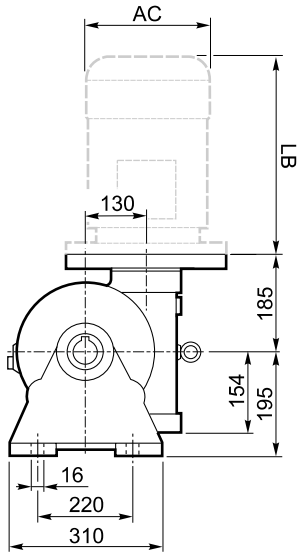




V





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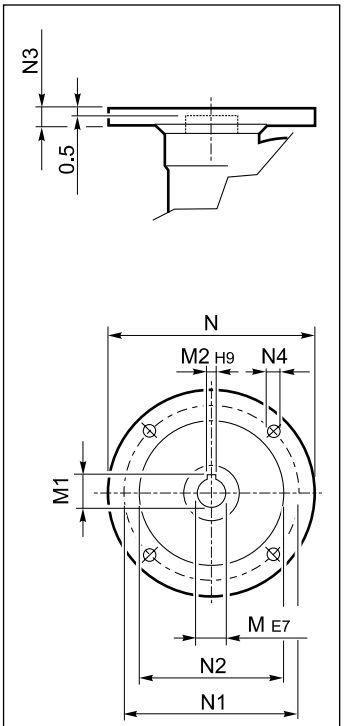

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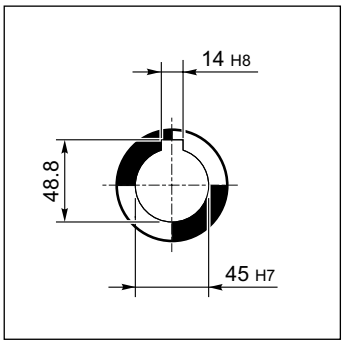

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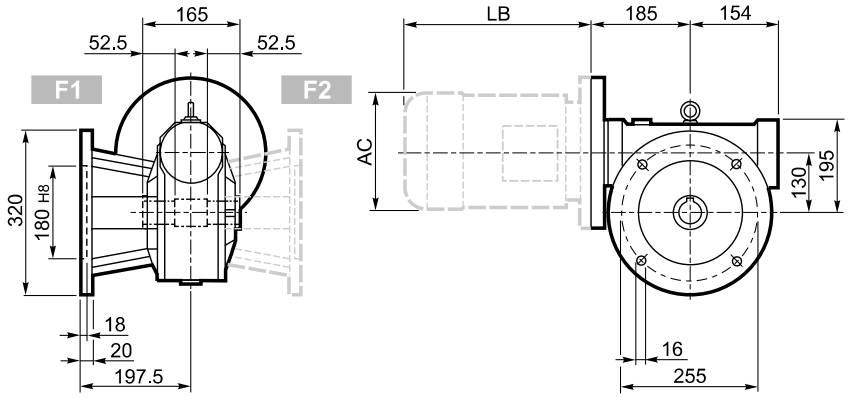
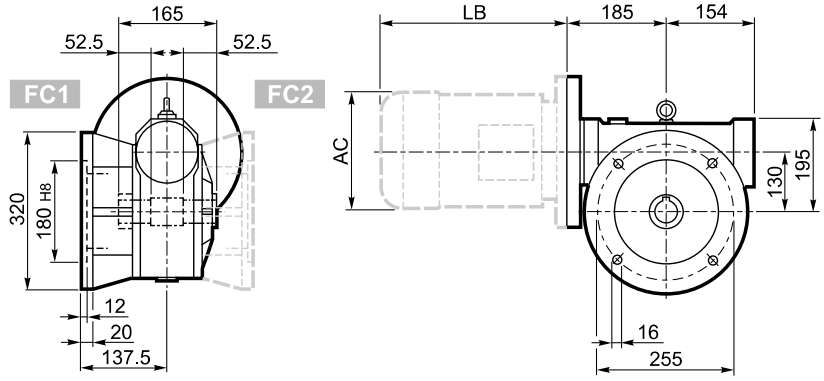
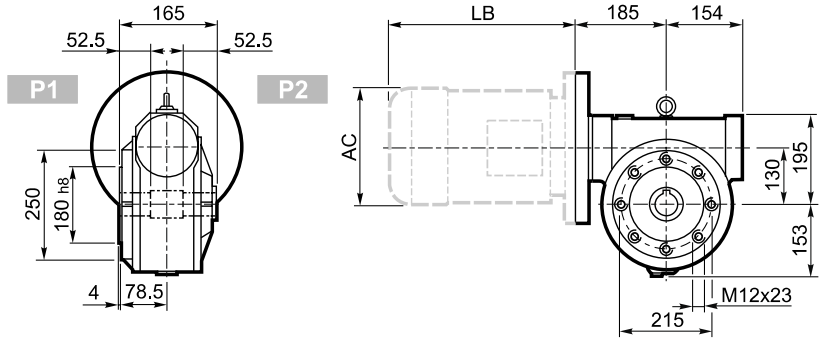


FC_

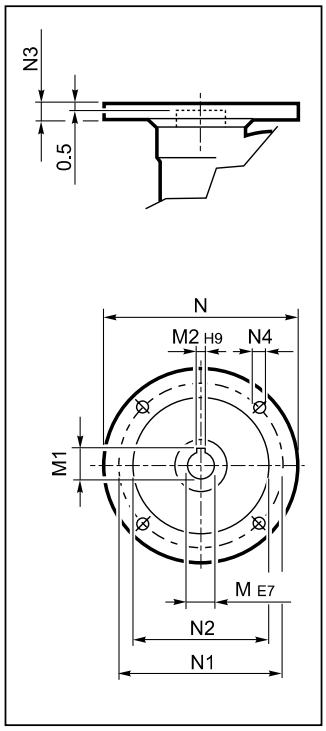
FR_



P_



INPUT



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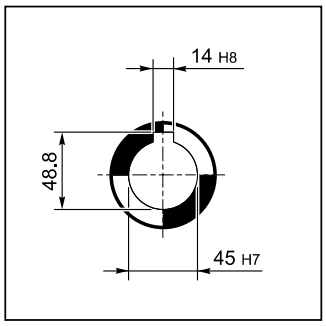
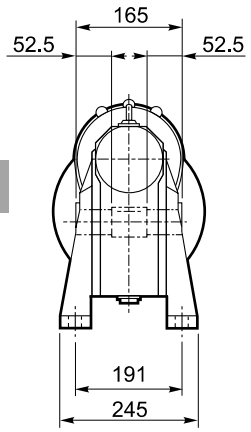
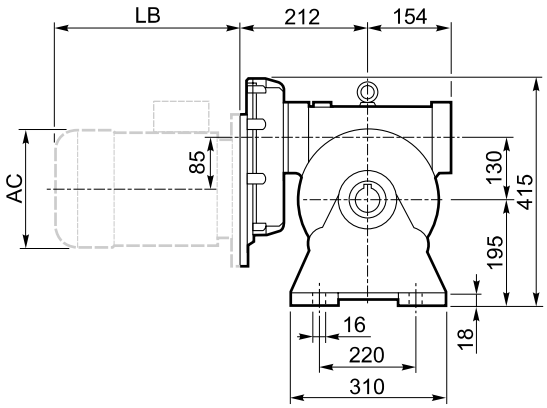


VF 130_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	kg	IEC	LB	AC	LB	AC
VF130	**P90 B5**	24	27.3	8	200	165	130	17	11	49	**BN 90**	276	176	359	176
VF130	**P100 B5**	28	31.3	8	250	215	180	17	13		**BN 100**	307	195	398	195
VF130	**P112 B5**	28	31.3	8	250	215	180	17	13		**BN 112**	325	219	424	219
VF130	**P132 B5**	38	40.1#	10	300	265	230	17	13		**BN 132**	413	258	523	258

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

A





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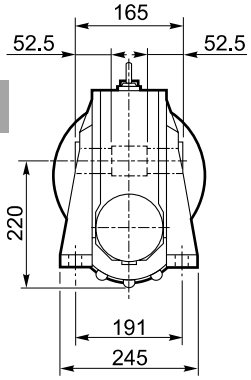

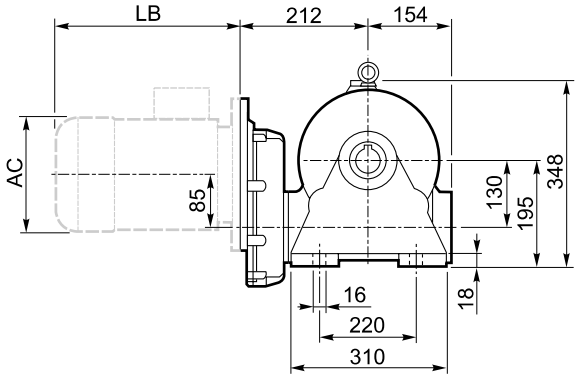

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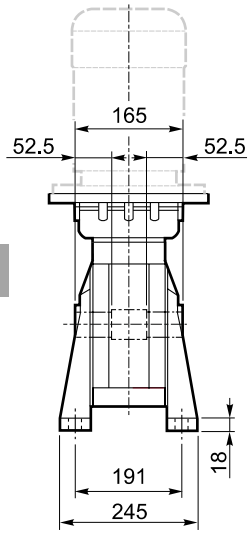

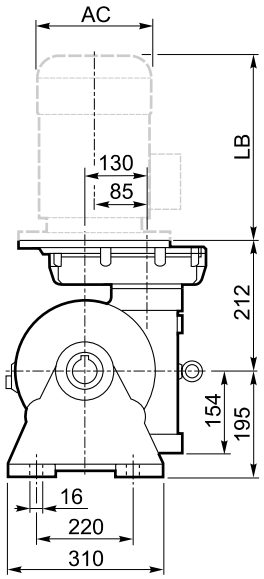

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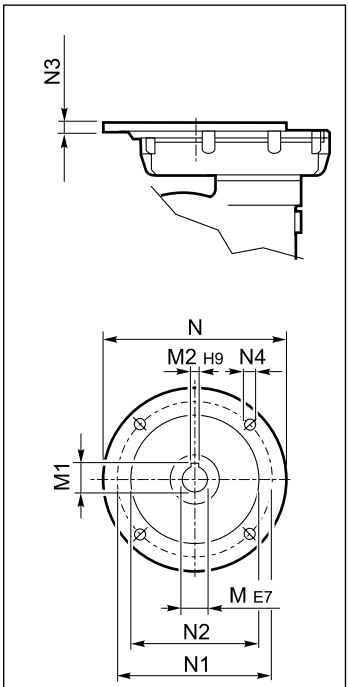

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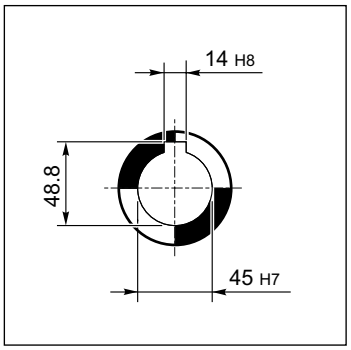

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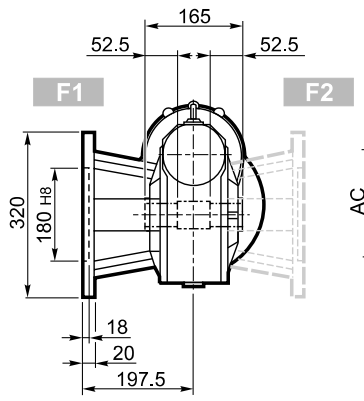
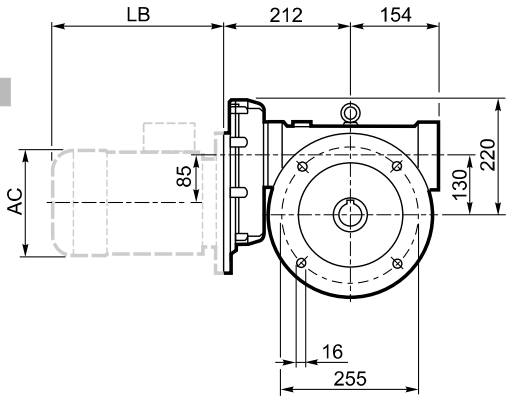
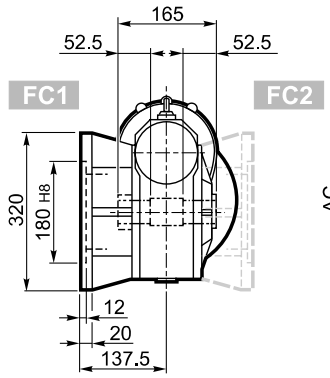
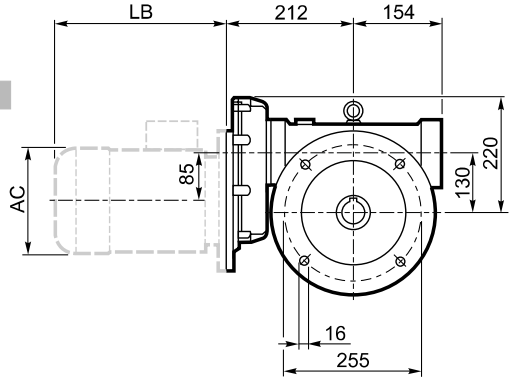




FC_

FR_





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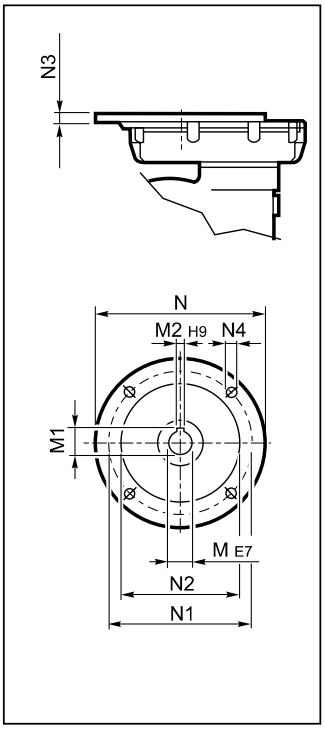

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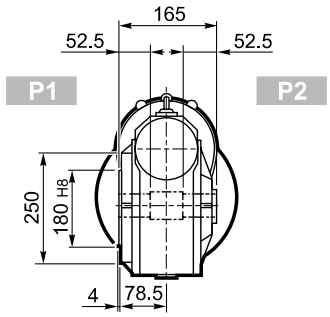
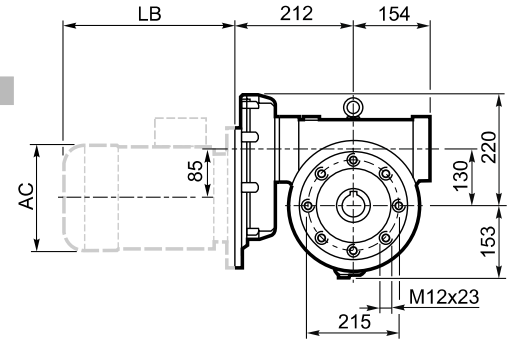
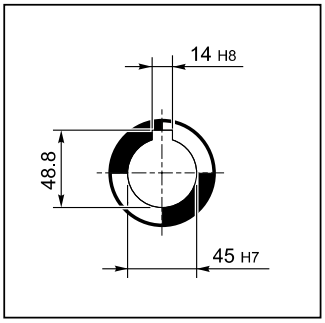




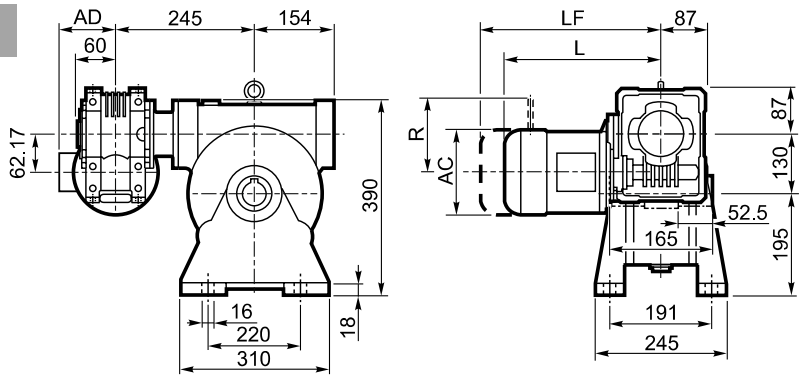
OUTPUT



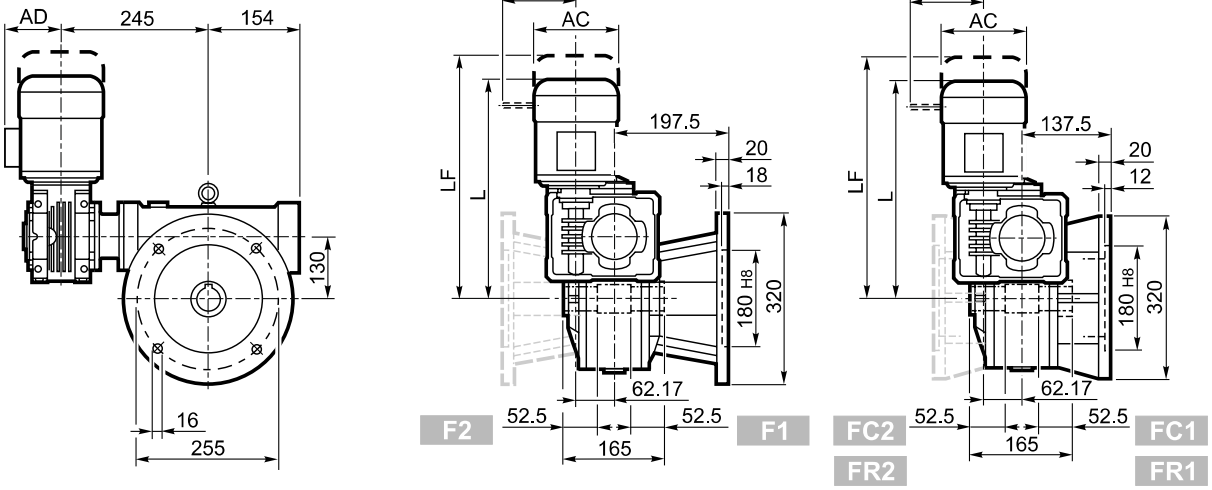
VFR 130_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	Kg	IEC	LB	AC	LB	AC
VFR 130	**P80 B5**	19 K6	21.8	6	200	165	130	12	M10x25	57	**BN 80**	234	156	306	156
VFR 130	**P90 B5**	24 K6	27.3	8	200	165	130	12	M10x25		**BN 90**	276	176	359	176
VRF 130	**P100 B5**	28 J6	29.1#	8	250	215	180	13	M12x35		**BN 100**	307	195	398	195
VRF 130	**P112 B5**	28 J6	29.1#	8	250	215	180	13	M12x35		**BN 112**	325	219	424	219

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

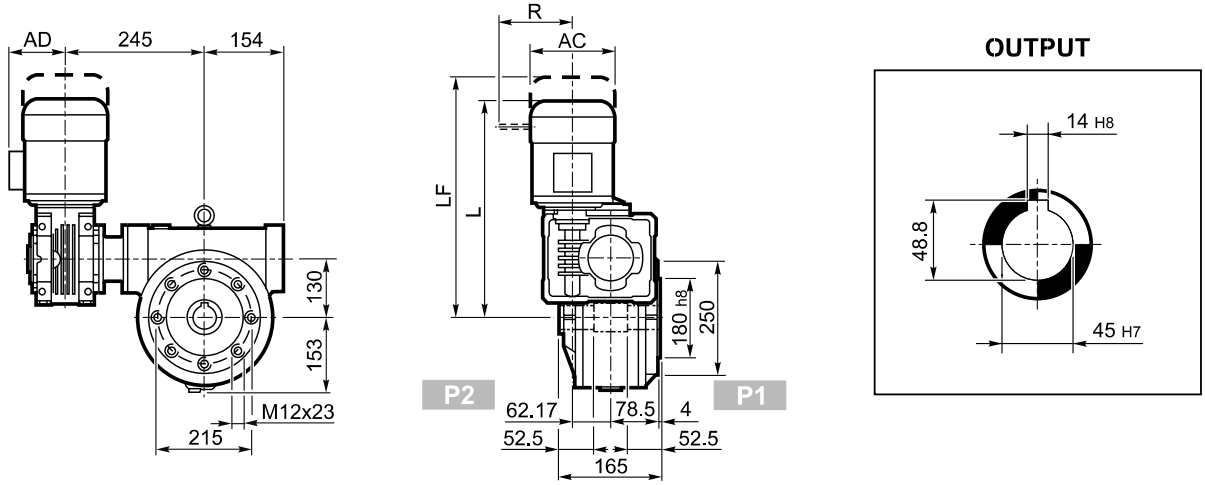
A



F_
FC_
FR_

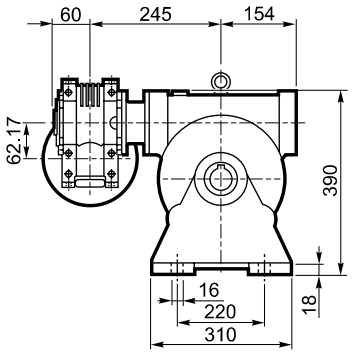


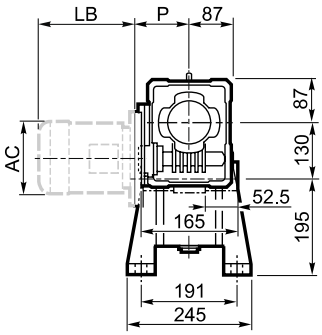
P_



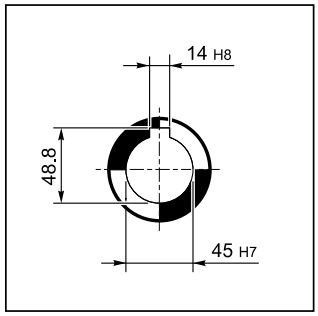
W/VF 63/130_												
				M_			M...FD M...FA		M...FD		M...FA	
			AC	L	AD	Kg	LF	Kg	R	AD	R	AD
W/VF 63/130	S1	M1S	138	395	108	62	458	64	103	132	124	108
W/VF 63/130	S1	M1L	138	419	108	63	480	65	103	132	124	108
W/VF 63/130	S2	M2S	156	447	119	68	523	71	129	143	134	119

A

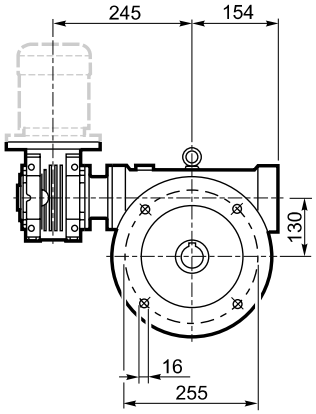


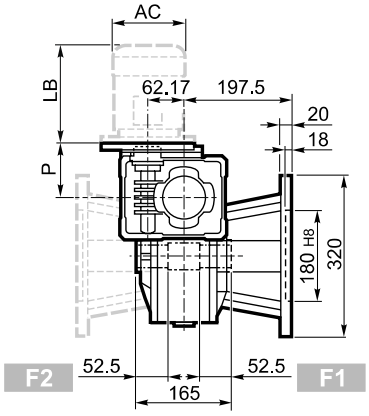


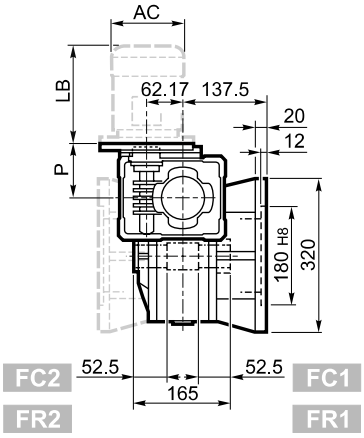
OUTPUT



F_
FC_
FR_







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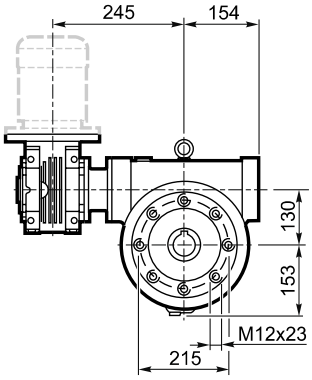
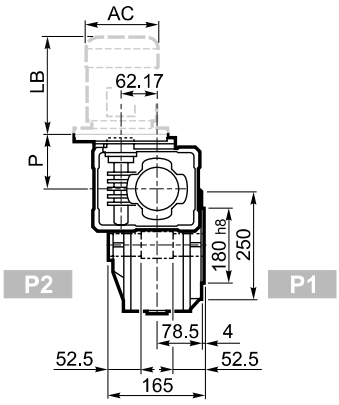
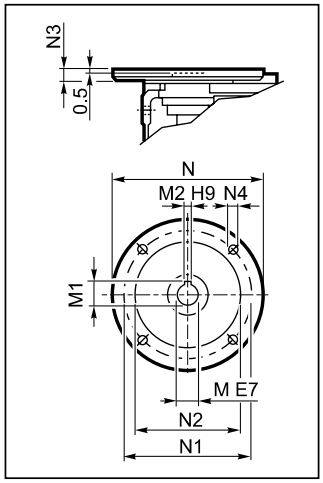


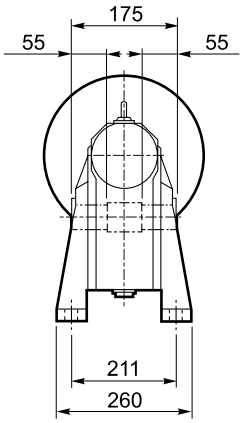


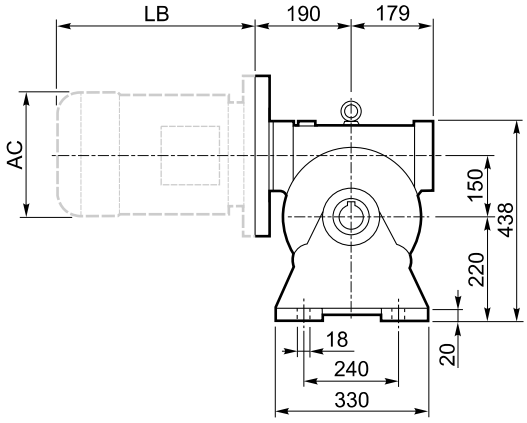
INPUT



W/VF 63/130_													BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	P	Kg	IEC	LB	AC	LB	AC
W/VF 63/130	P71 B5	14	16.3	5	160	130	110	11	9	95	57	BN 71	219	138	280	138
W/VF 63/130	P80 B5	19	21.8	6	200	165	130	12	11.5	102		BN 80	234	156	306	156
W/VF 63/130	P90 B5	24	27.3	8	200	165	130	12	11.5	102		BN 90	276	176	359	176
W/VF 63/130	P71 B14	14	16.3	5	105	85	70	11	6.5	95		BN 71	219	138	280	138
W/VF 63/130	P80 B14	19	21.8	6	120	100	80	11	6.5	102		BN 80	234	156	306	156
W/VF 63/130	P90 B14	24	27.3	8	140	115	95	11	8.5	102		BN 90	276	176	359	176

A





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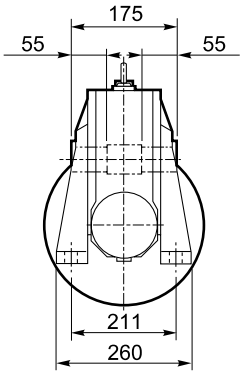
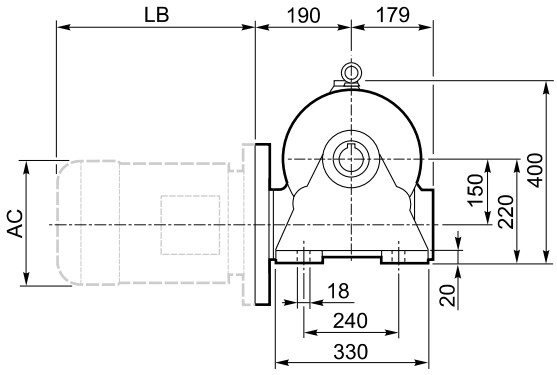
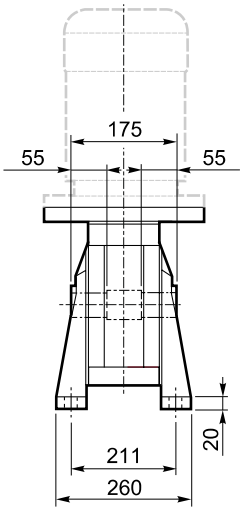
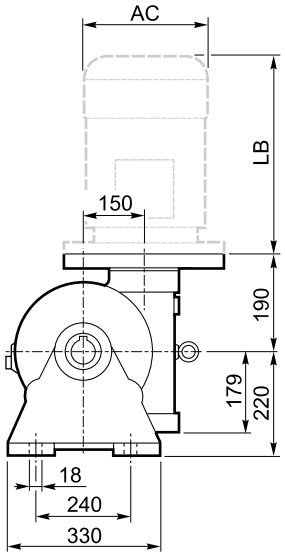


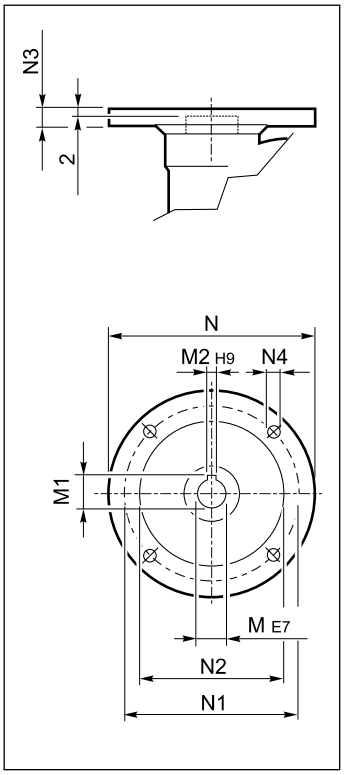


V

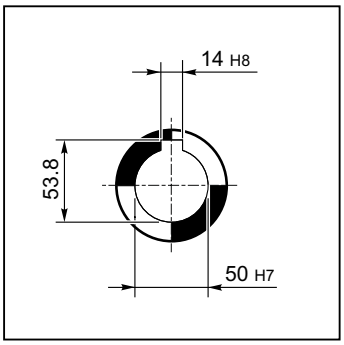




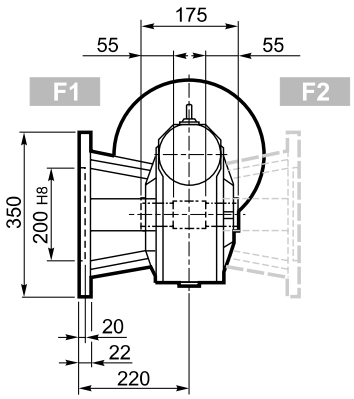
INPUT

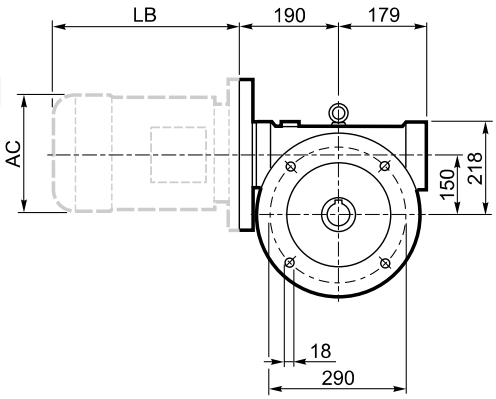


OUTPUT



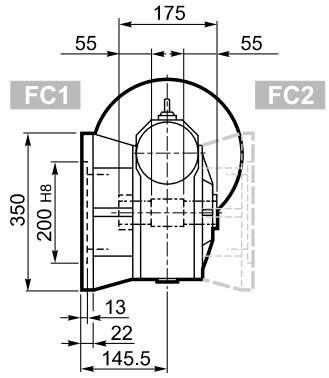
F_

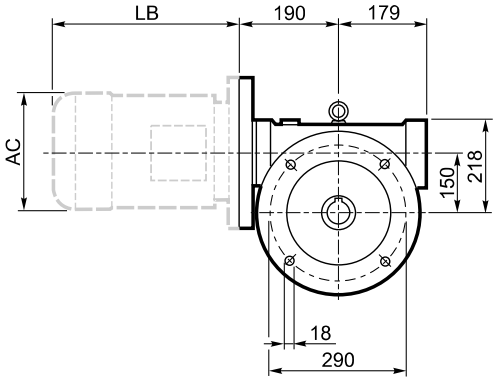




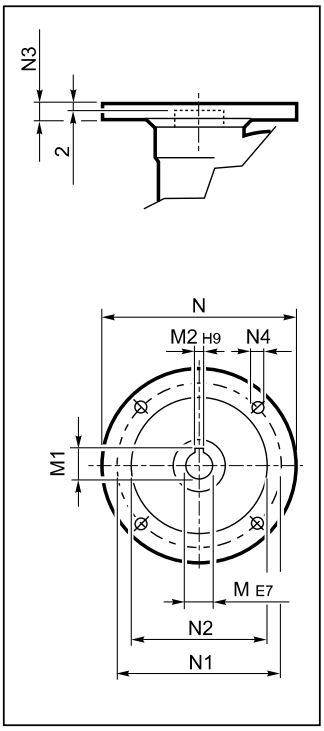
FC_

FR_

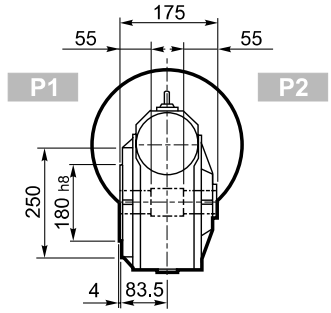


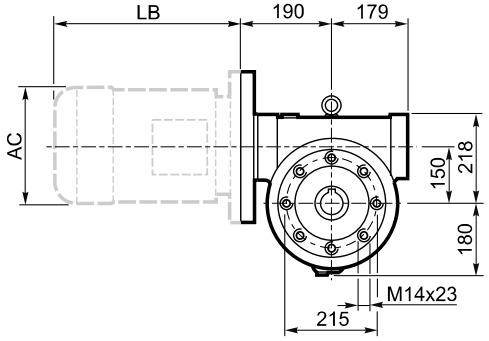


INPUT

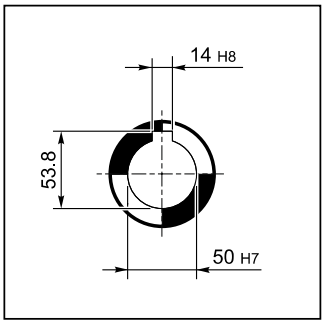


P_





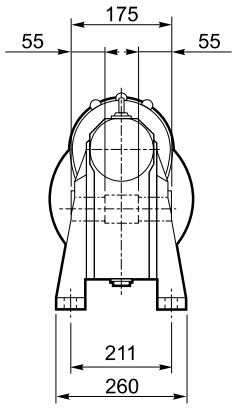
OUTPUT

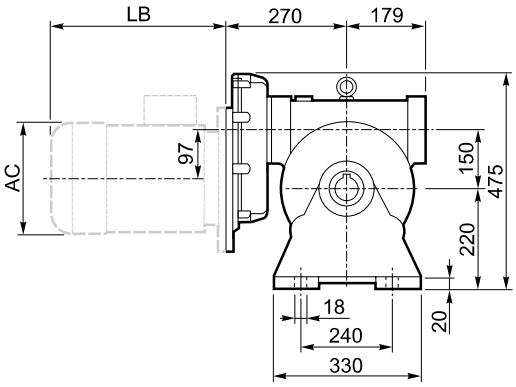


VF 150_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	Kg	IEC	LB	AC	LB	AC
VF 150	P100 B5	28	31.3	8	250	215	180	11	13	60	BN 100	307	195	398	195
VF 150	P112 B5	28	31.3	8	250	215	180	11	13		BN 112	325	219	424	219
VF 150	P132 B5	38	41.3	10	300	265	230	16	13		BN 132	413	258	523	258
VF 150	P160 B5	42	44.6#	12	350	300	250	18	18		BN 160MR	452	258	562	258
											BN 160M/R	486	310	626	310

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

A





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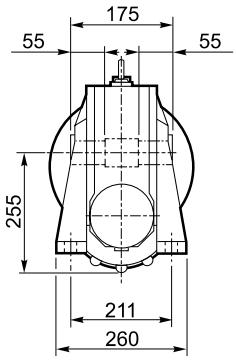

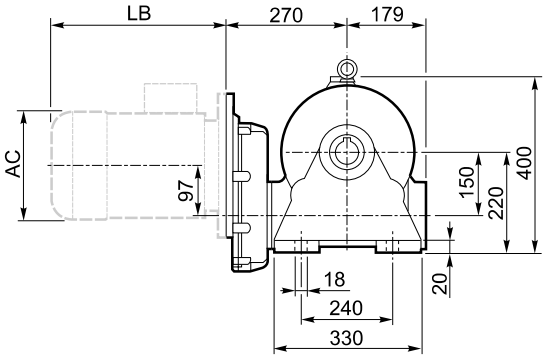

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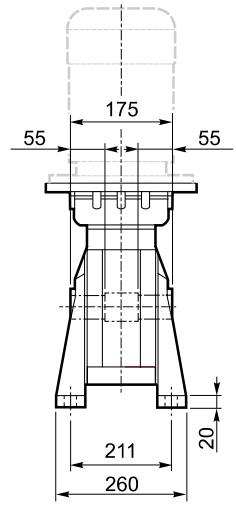

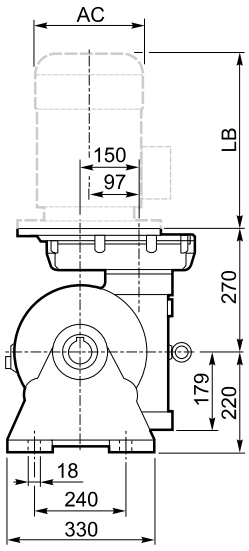

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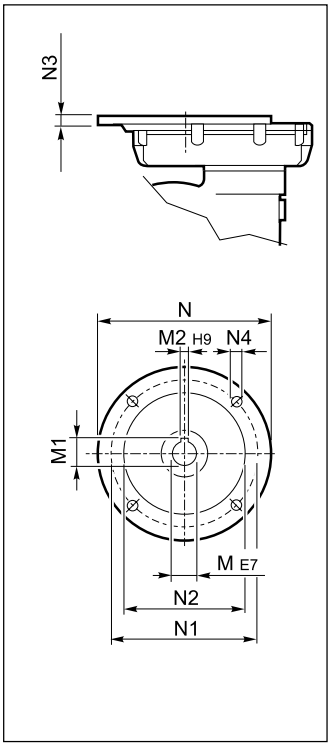

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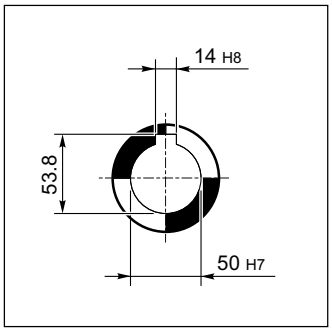

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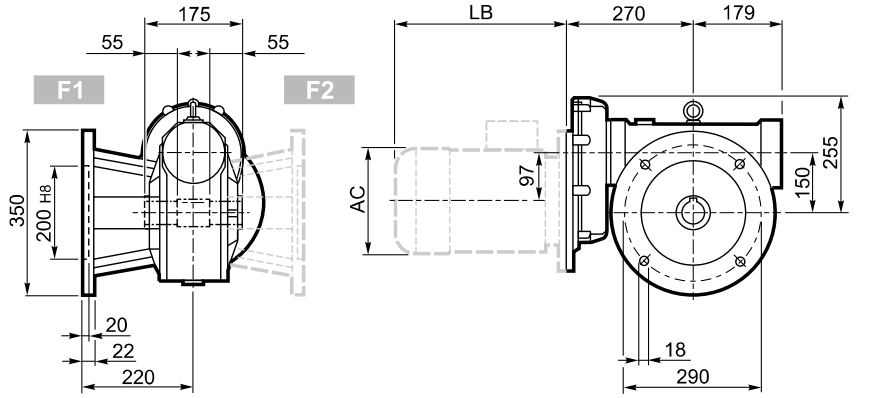
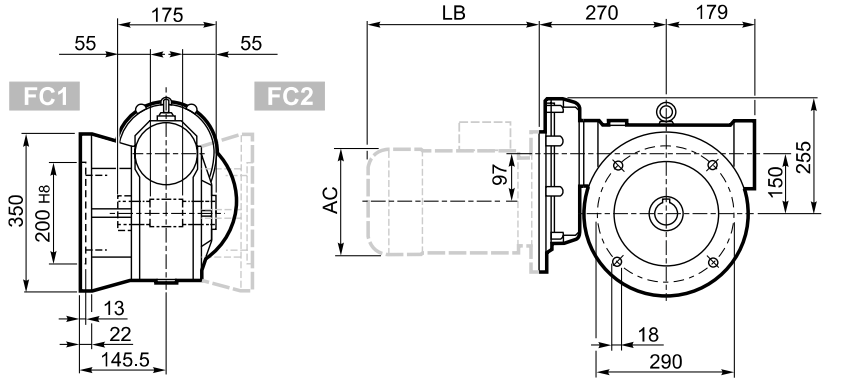
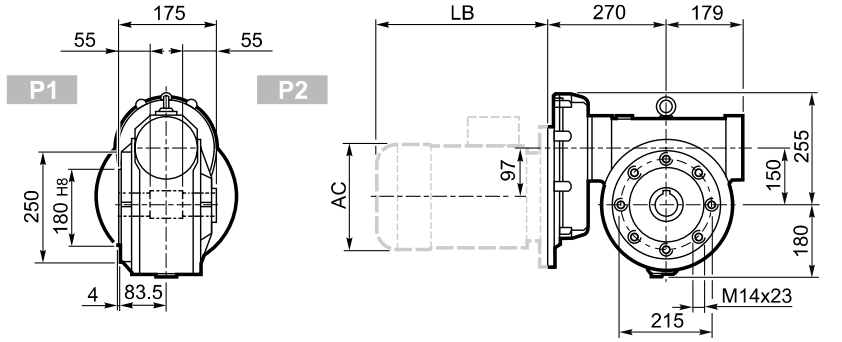


FC_

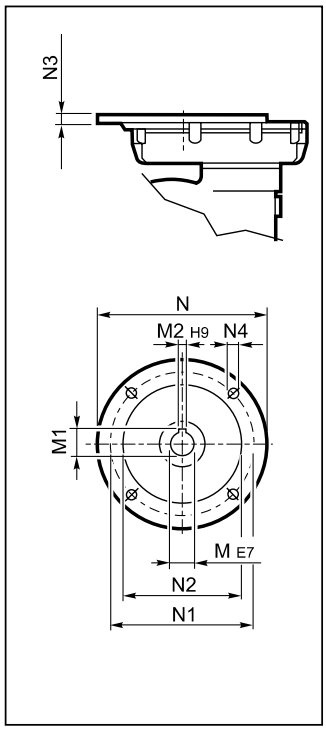
FR_



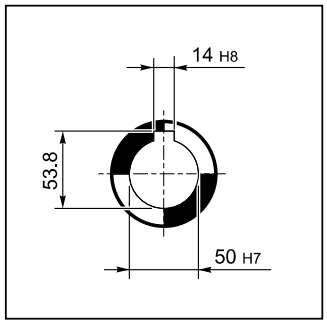
P_



INPUT



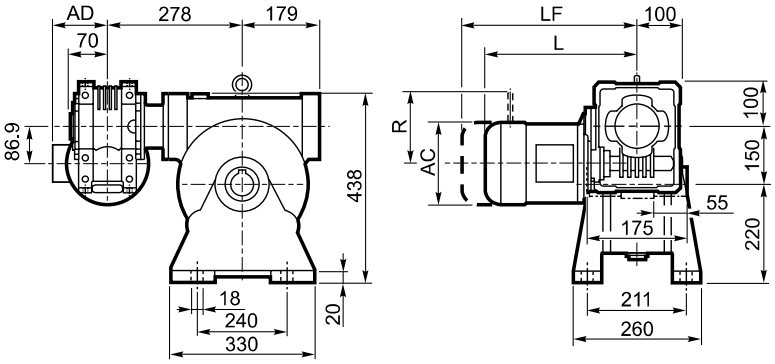
OUTPUT



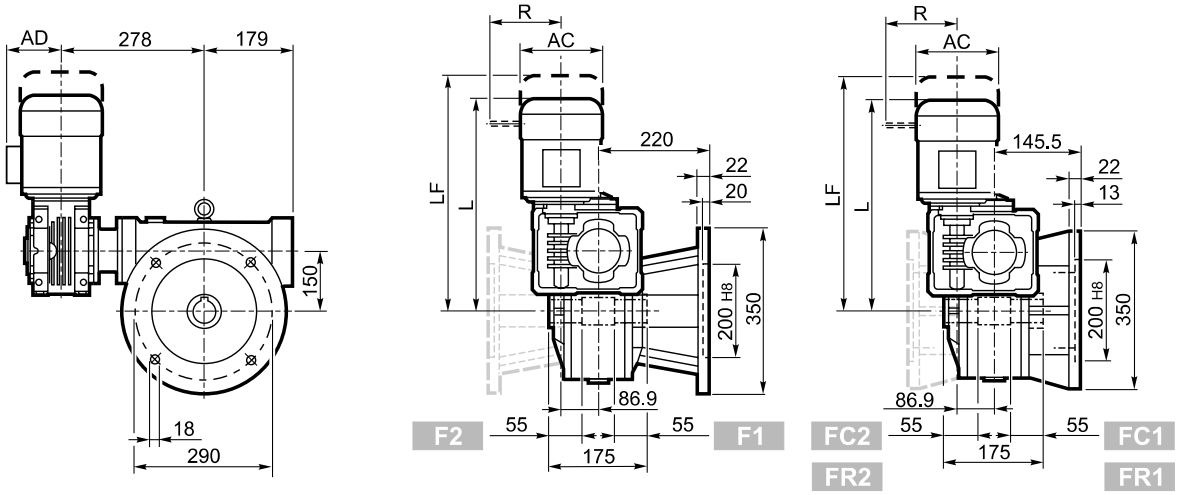
VFR 150_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	Kg	IEC	LB	AC	LB	AC
VFR 150	**P90 B5**	24 K6	27.3	8	200	165	130	13	M10x25	71	**BN 90**	276	176	359	176
VRF 150	**P100 B5**	28 K6	31.3	8	250	215	180	13	M12x35		**BN 100**	307	195	398	195
VRF 150	**P112 B5**	28 J6	31.3	8	250	215	180	13	M12x35		**BN 112**	325	219	424	219
VFR 150	**P132 B5**	38 J6	39.6#	10	300	265	230	13	M12x35		**BN 132**	413	258	523	258

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

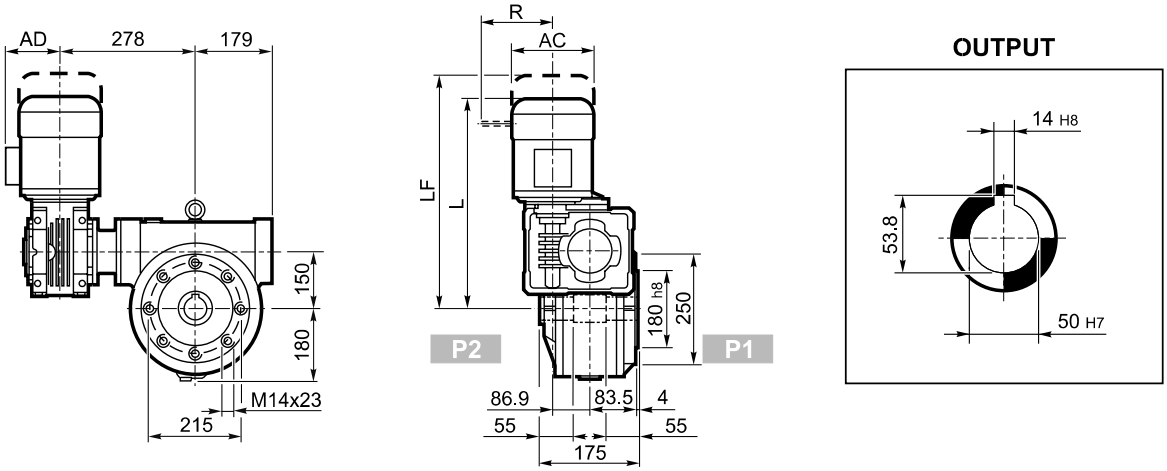
A



F_
FC_
FR_

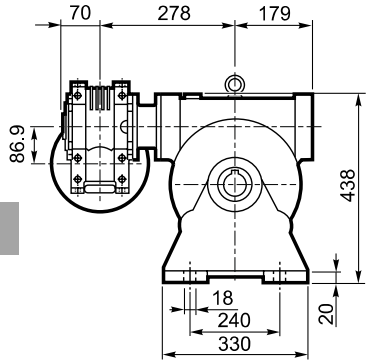


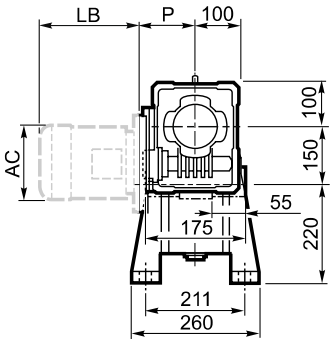
P_



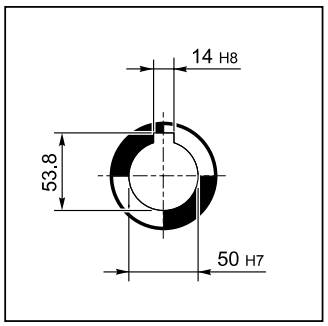
W/VF 86/150_												
				M_			M...FD M...FA		M...FD		M...FA	
			AC	L	AD	Kg	LF	Kg	R	AD	R	AD
W/VF 86/150	S1	M1S	138	450	108	80	363	82	103	132	124	108
W/VF 86/150	S1	M1L	138	474	108	82	385	84	103	132	124	108
W/VF 86/150	S2	M2S	156	499	119	86	425	89	129	143	134	119
W/VF 86/150	S3	M3S	193	542	142	91	488	97	160	155	160	142
W/VF 86/150	S3	M3L	193	574	142	99	515	104	160	155	160	142

A

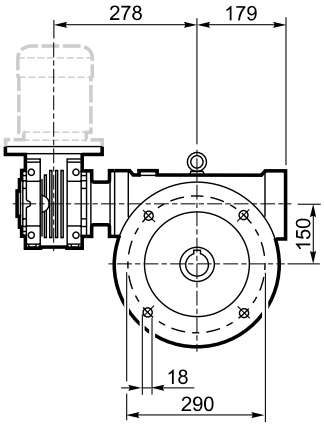


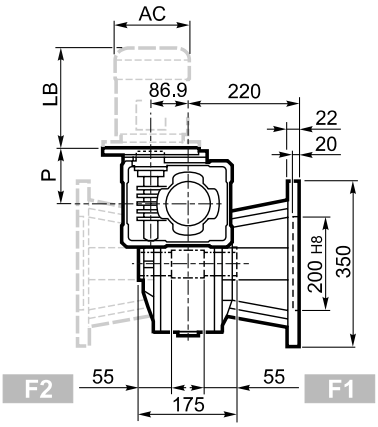


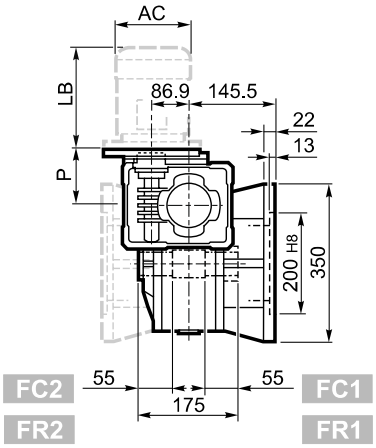
OUTPUT



F_
FC_
FR_







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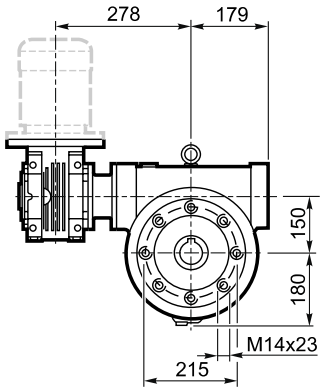
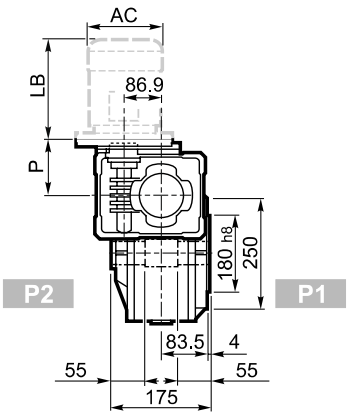
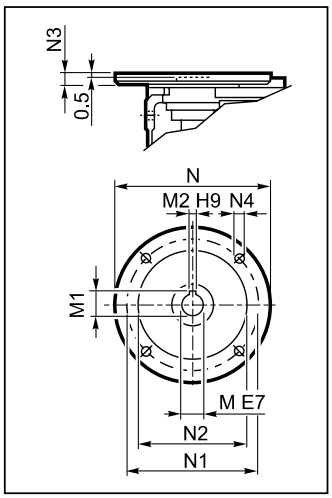


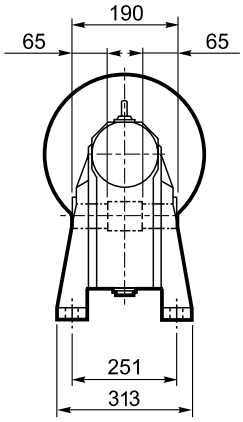


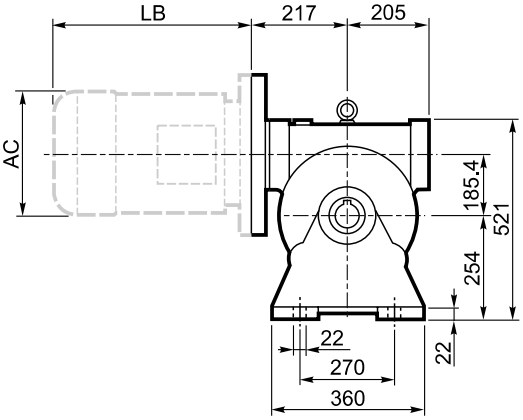
INPUT



W/VF 86/150_													BN		BN...FD BN..FA	
		M	M1	M2	N	N1	N2	N3	N4	P	Kg	IEC	LB	AC	LB	AC
W/VF 86/150	P71 B5	14	16.3	5	160	130	110	11	9	128		BN 71	219	138	280	138
W/VF 86/150	P80 B5	19	21.8	6	200	165	130	12	11.5	128		BN 80	234	156	306	156
W/VF 86/150	P90 B5	24	27.3	8	200	165	130	12	11.5	128		BN 90	276	176	359	176
W/VF 86/150	P100 B5	28	31.3	8	250	215	180	13	12.5	136		BN 100	307	195	398	195
W/VF 86/150	P112 B5	28	31.3	8	250	215	180	13	12.5	136	75	BN 112	325	219	424	219
W/VF 86/150	P80 B14	19	21.8	6	120	100	80	7.5	6.5	128		BN 80	234	156	306	156
W/VF 86/150	P90 B14	24	27.3	8	140	115	95	7.5	8.5	128		BN 90	276	176	359	176
W/VF 86/150	P100 B14	28	31.3	8	160	130	110	10	8.5	136		BN 100	307	195	398	195
W/VF 86/150	P112 B14	28	31.3	8	160	130	110	10	8.5	136		BN 112	325	219	424	219

A





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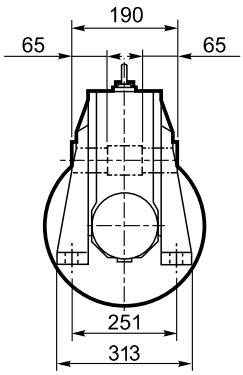
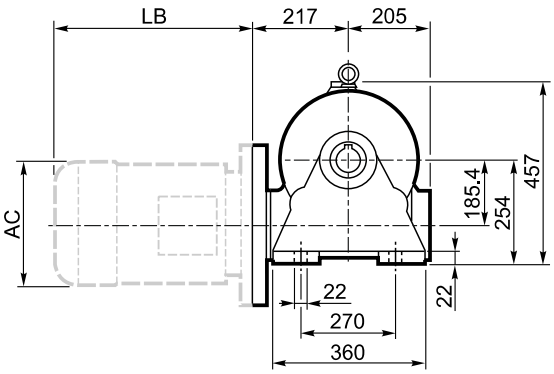
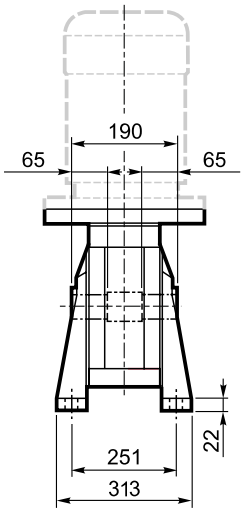
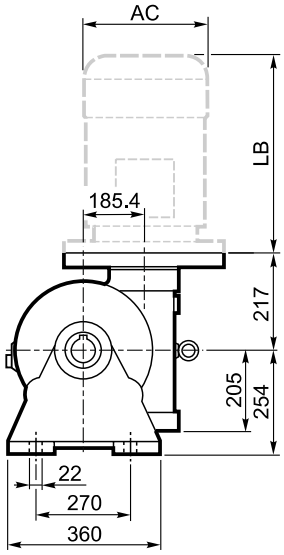


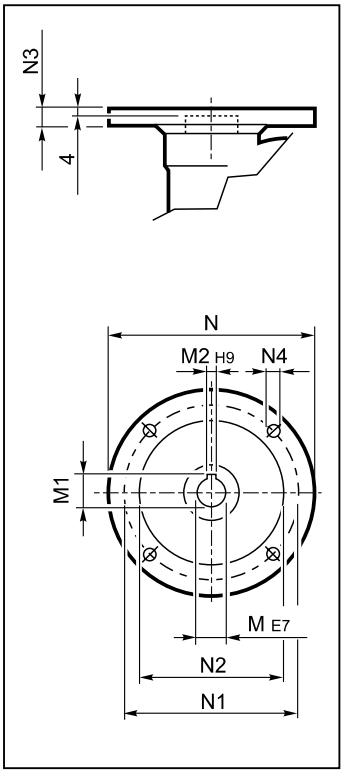


V

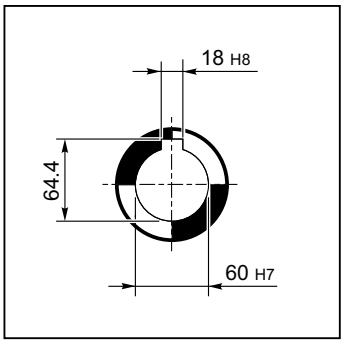


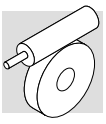


INPUT

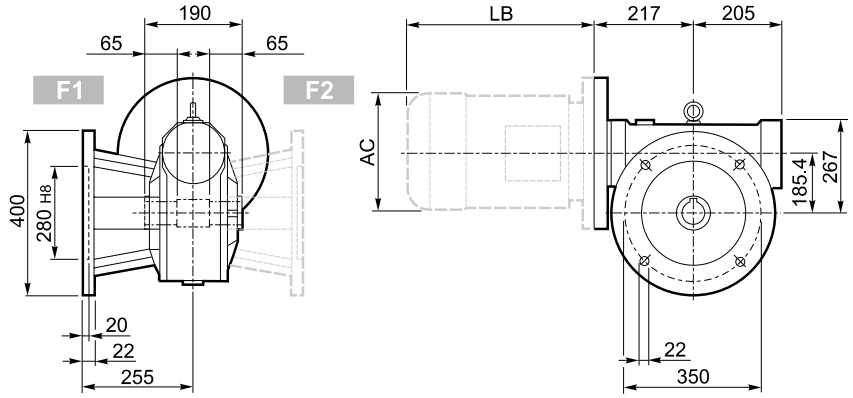


OUTPUT

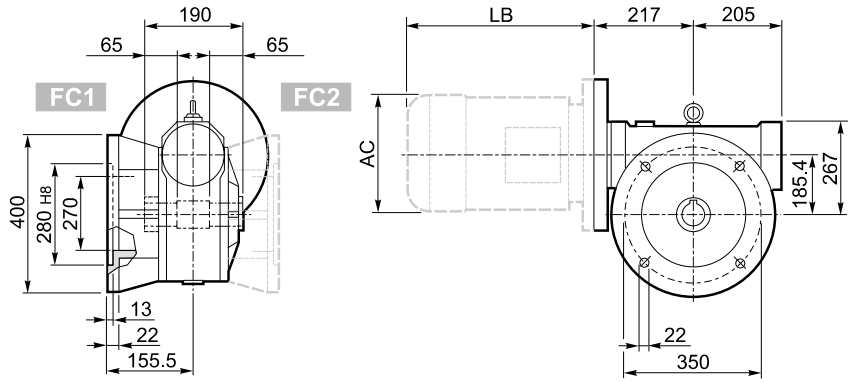




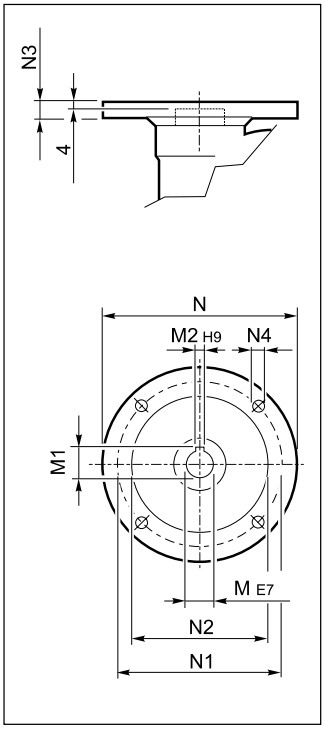
F_



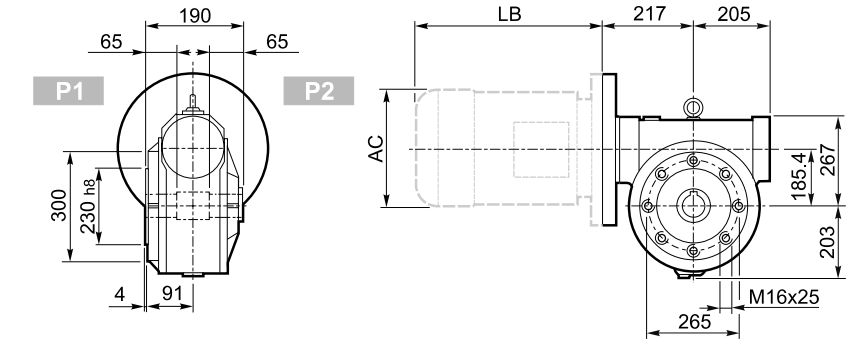
FC_
FR_



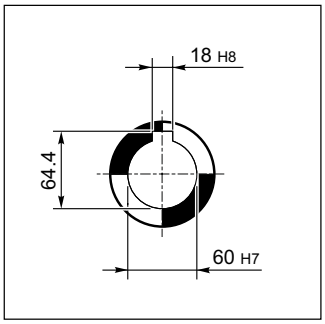
INPUT



P_



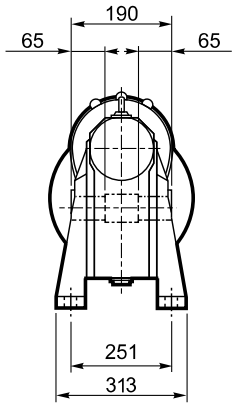
OUTPUT

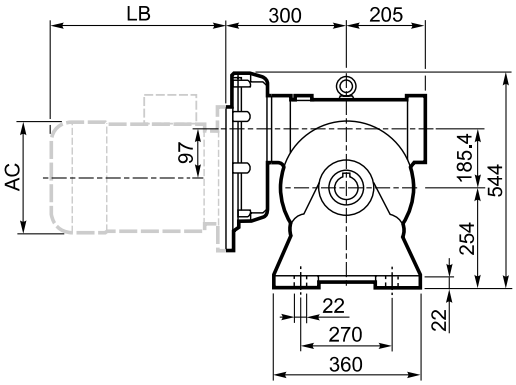


VF 185_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	Kg	IEC	LB	AC	LB	AC
VF 185	P100 B5	28	31.3	8	250	215	180	16	13	94	BN 100	307	195	398	195
VF 185	P112 B5	28	31.3	8	250	215	180	16	13		BN 112	325	219	424	219
VF 185	P132 B5	38	41.3	10	300	265	230	16	13		BN 132	413	258	523	258
VF 185	P160 B5	42	45.3	12	350	300	250	18	18		BN 160MR	452	258	562	258
											BN 160M/L	486	310	626	310
VF 185	P180 B5	48	51.2#	14	350	300	250	18	18		BN 180M	530	310	670	310
											BN 180L	598	348	756	348

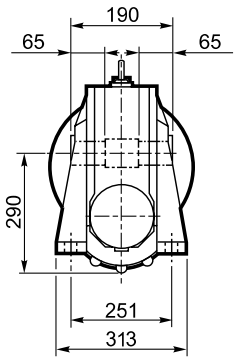
Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

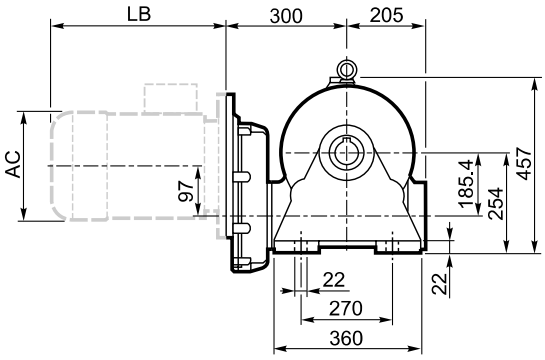
A



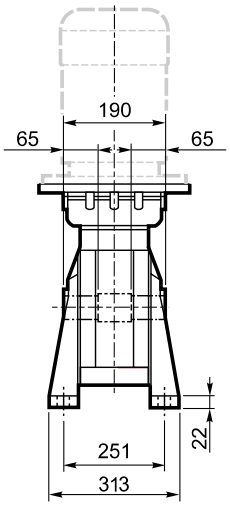


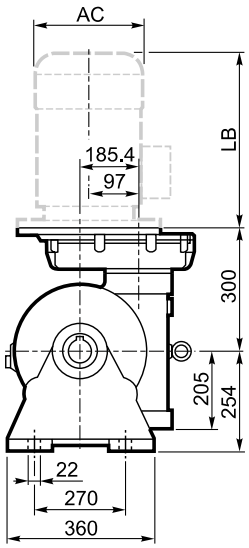
N





V





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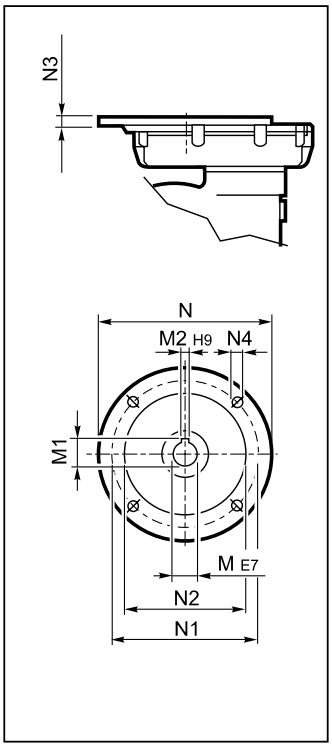

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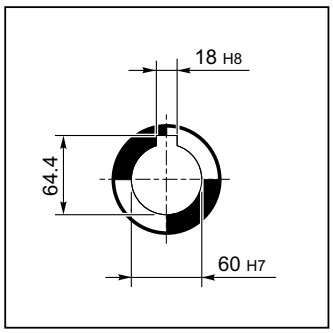
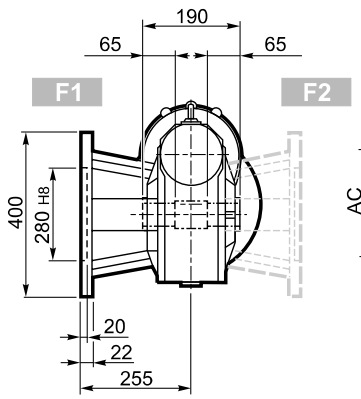
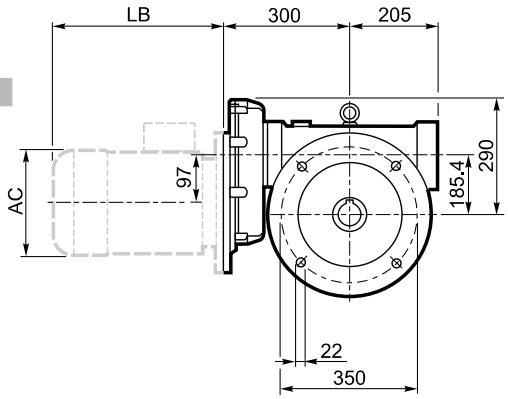
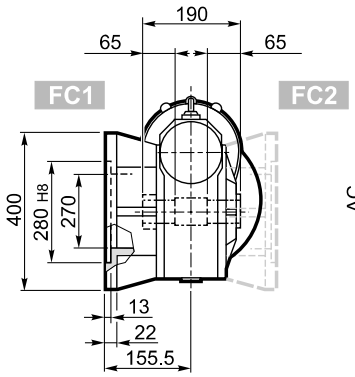


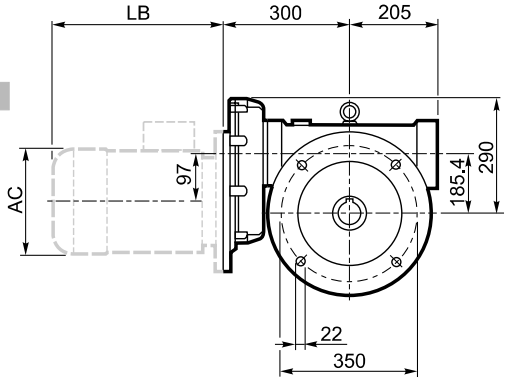
F_





FC_
FR_





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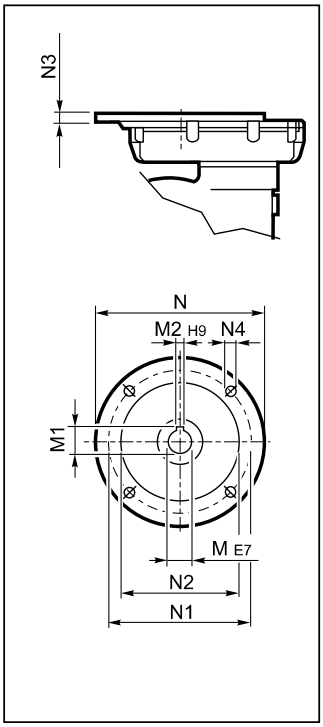

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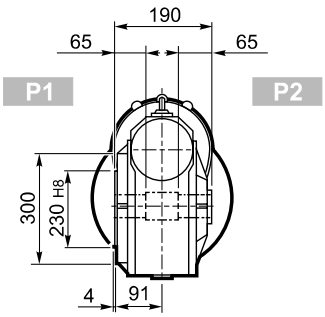

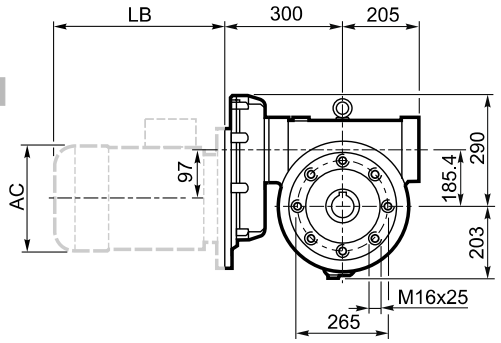

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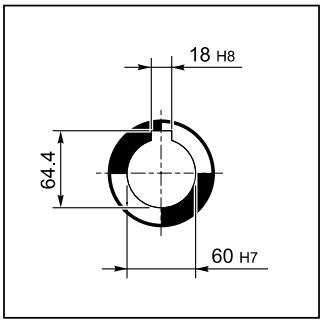
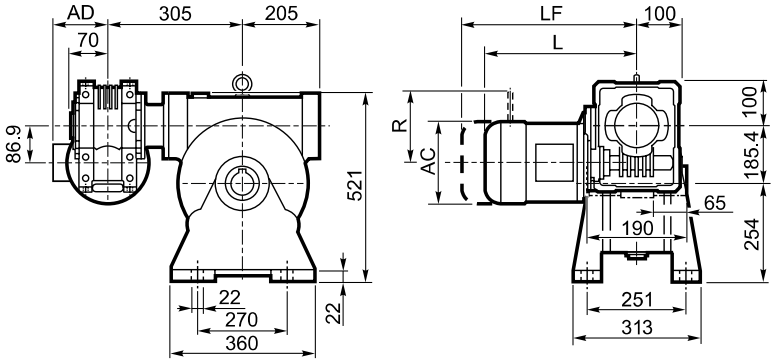


VFR 185_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	kg	IEC	LB	AC	LB	AC
VFR 185	**P90 B5**	24 K6	27.3	8	200	165	130	13	M10x25	110	BN 90	276	176	359	176
VRF 185	**P100 B5**	28 K6	31.3	8	250	215	180	13	M12x35		BN 100	307	195	398	195
VRF 185	**P112 B5**	28 K6	31.3	8	250	215	180	13	M12x35		BN 112	325	219	424	219
VFR 185	**P132 B5**	38 J6	39.6#	10	300	265	230	13	M12x35		BN 132	413	258	523	258

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

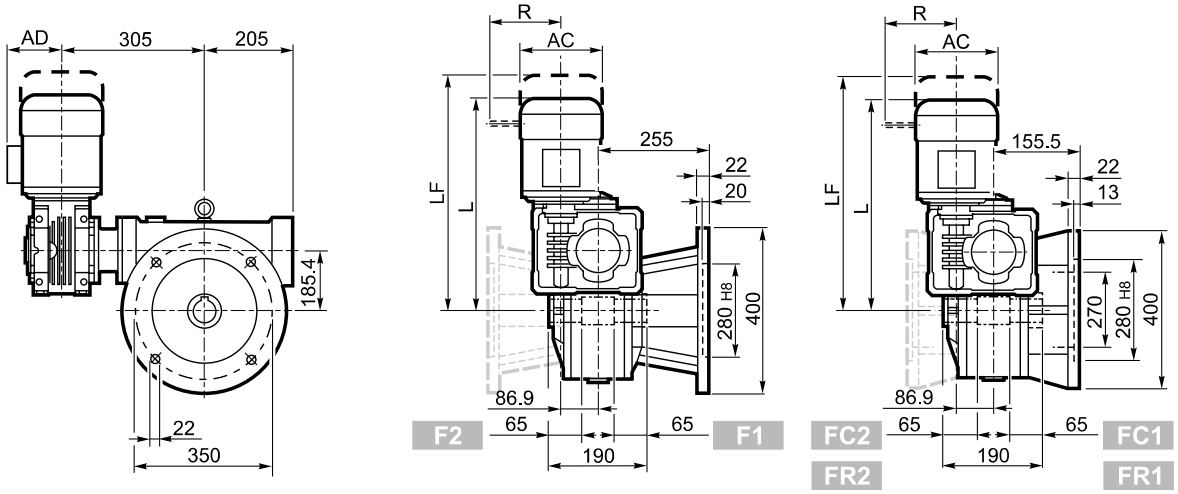
A



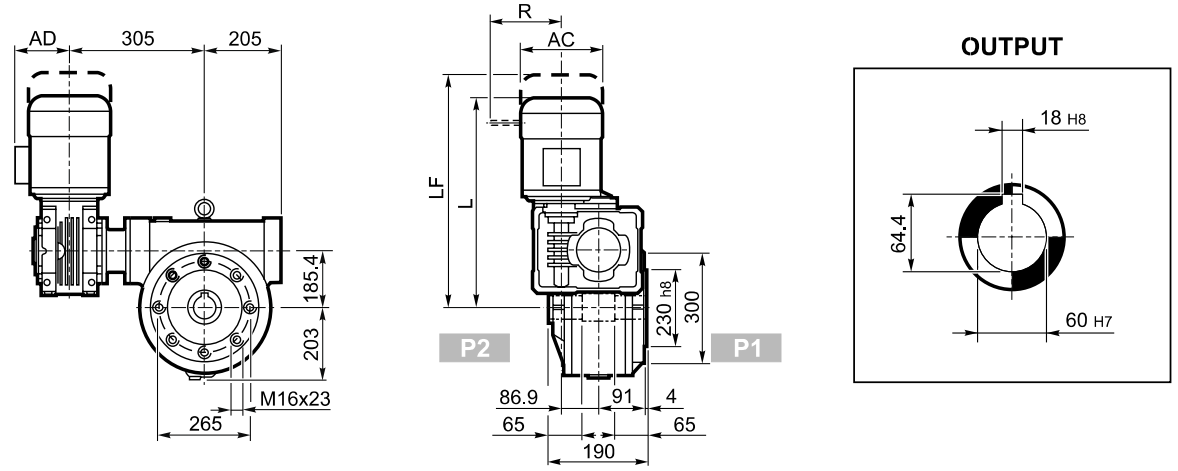
F_

FC_

FR_

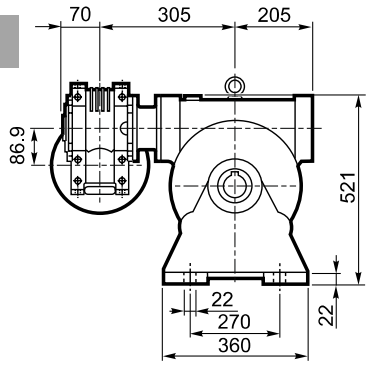


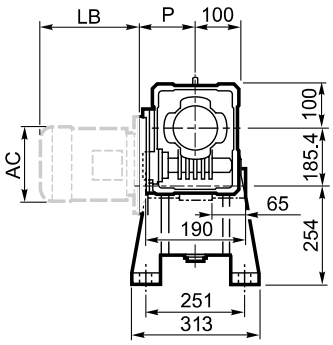
P_



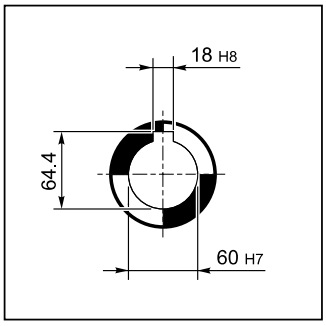
W/VF 86/150_												
				M_			M...FD M...FA		M...FD		M...FA	
			AC	L	AD	Kg	LF	Kg	R	AD	R	AD
W/VF 86/185	S1	M1S	138	485	108	114	548	116	103	132	124	108
W/VF 86/185	S1	M1L	138	509	108	116	570	118	103	132	124	108
W/VF 86/185	S2	M2S	156	534	119	120	610	123	129	143	134	119
W/VF 86/185	S3	M3S	193	577	142	125	673	131	160	155	160	142
W/VF 86/185	S3	M3L	193	609	142	133	700	138	160	155	160	142

A

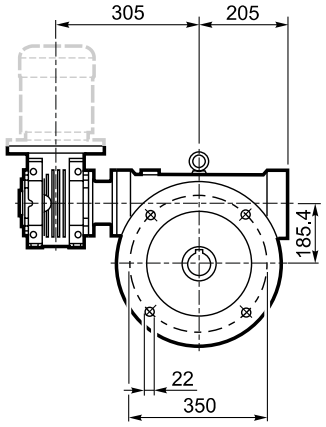


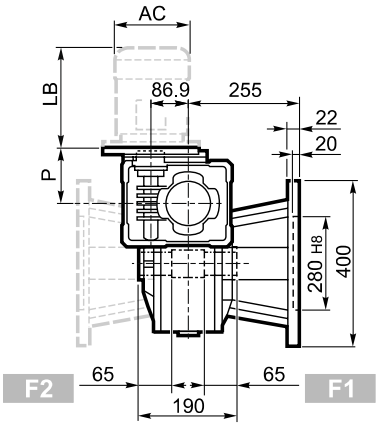


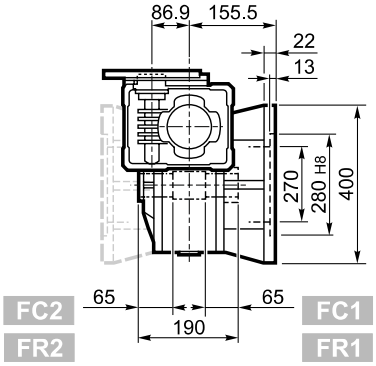
OUTPUT



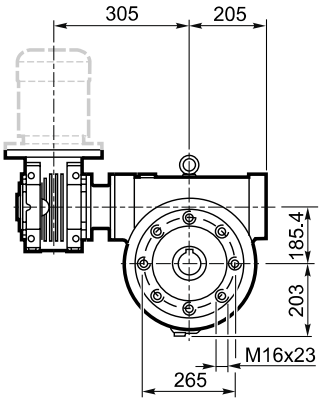
F_
FC_
FR_

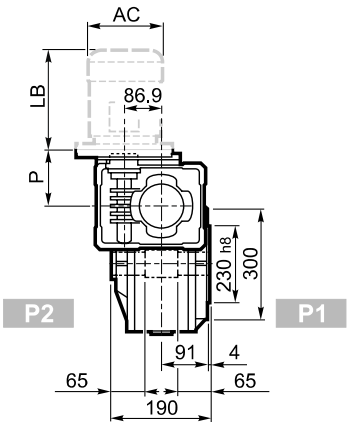




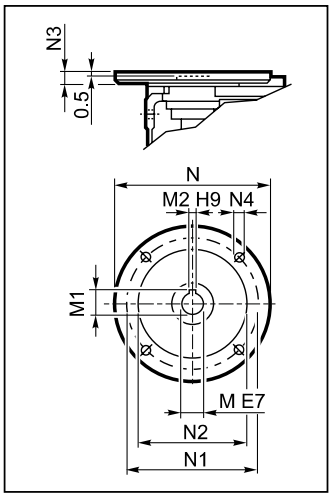


P_



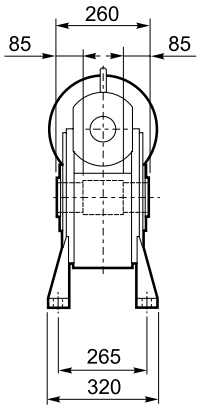


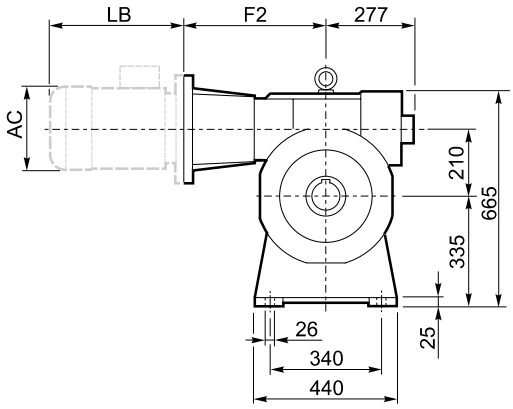
INPUT



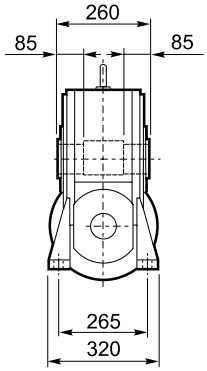
W/VF 86/185_													BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	P	kg	IEC	LB	AC	LB	AC
W/VF 86/185	P71 B5	14	16.3	5	160	130	110	11	9	128		BN 71	219	138	280	138
W/VF 86/185	P80 B5	19	21.8	6	200	165	130	12	11.5	128		BN 80	234	156	306	156
W/VF 86/185	P90 B5	24	27.3	8	200	165	130	12	11.5	128		BN 90	276	176	359	176
W/VF 86/185	P100 B5	28	31.3	8	250	215	180	13	12.5	136		BN 100	307	195	398	195
W/VF 86/185	P112 B5	28	31.3	8	250	215	180	13	12.5	136	109	BN 112	325	219	424	219
W/VF 86/185	P80 B14	19	21.8	6	120	100	80	7.5	6.5	128		BN 80	234	156	306	156
W/VF 86/185	P90 B14	24	27.3	8	140	115	95	7.5	8.5	128		BN 90	276	176	359	176
W/VF 86/185	P100 B14	28	31.3	8	160	130	110	10	8.5	136		BN 100	307	195	398	195
W/VF 86/185	P112 B14	28	31.3	8	160	130	110	10	8.5	136		BN 112	325	219	424	219

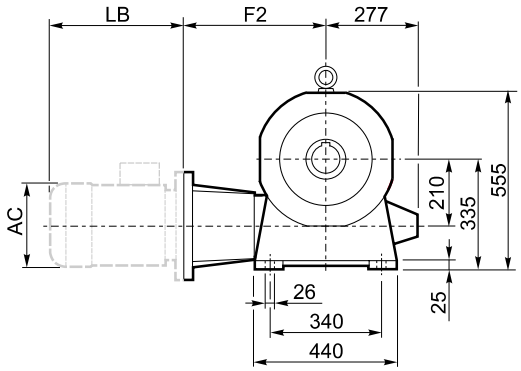
A





N





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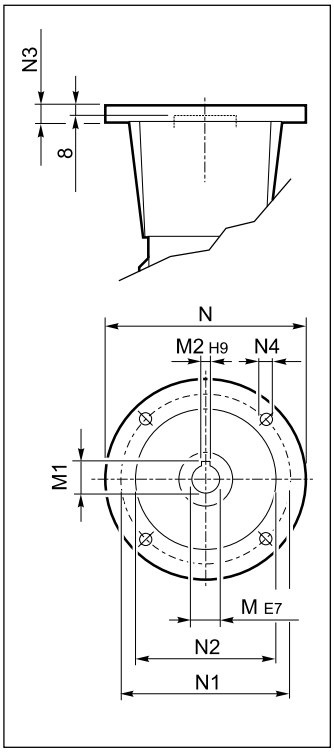
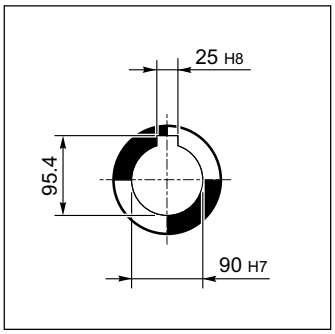
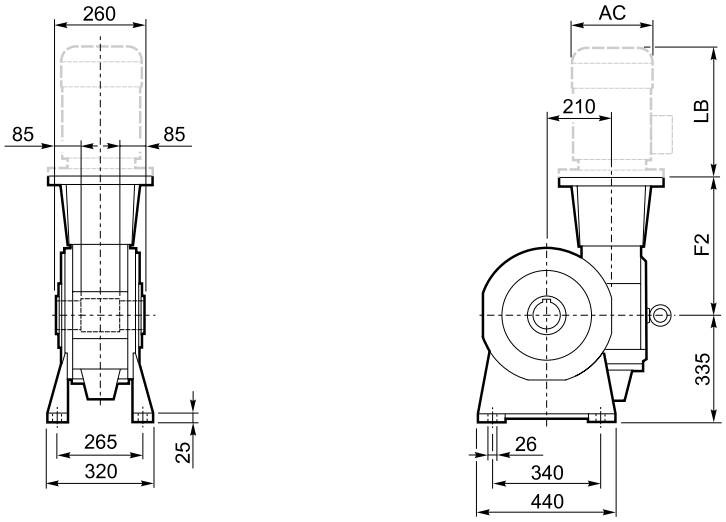


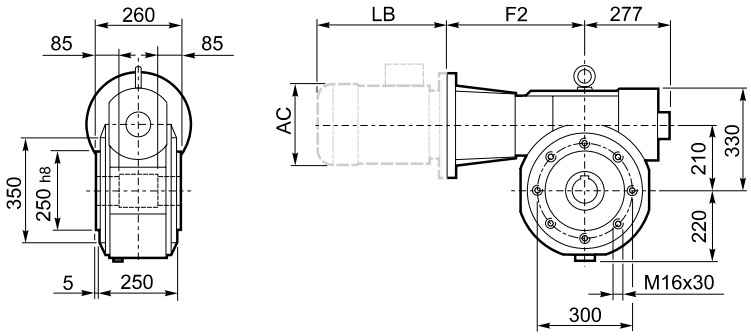
OUTPUT



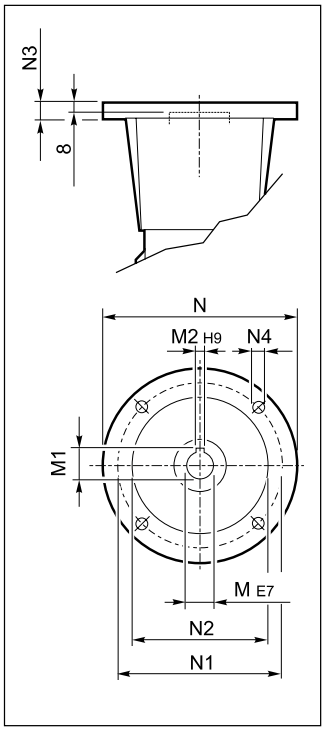
V



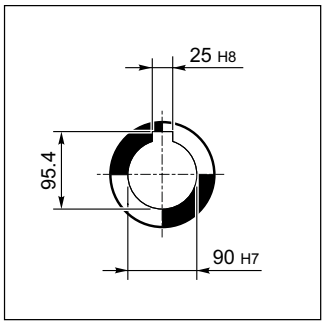
P



INPUT



OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Nell'esecuzione P(IEC) è prevista di serie la fornitura del giunto completo per attacco motore.

Fan cooling as standard on versions A and P.

P(IEC) arrangements come complete with gear coupling enclosed in the bell housing.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

Die Motorflansch-Ausführung wird serienmäßig mit kompletter Motorkupplung geliefert.

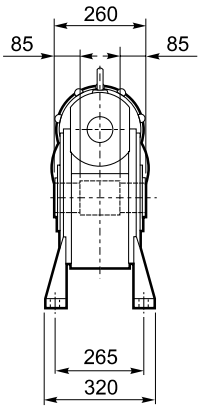
Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

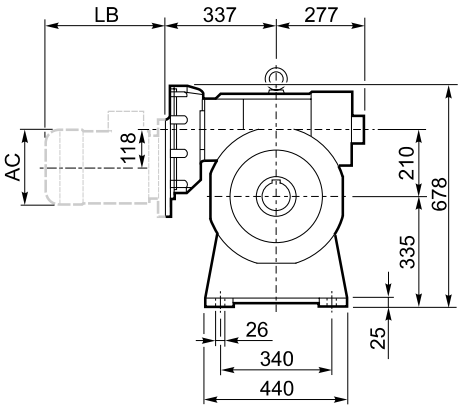
Dans la version P(IEC), la fourniture du joint complet d'accouplement moteur à été prévue de série.

VF 210_													BN		BN...FD BN...FA	
		F2	M	M1	M2	N	N1	N2	N3	N4	kg	IEC	LB	AC	LB	AC
VF 210	**P132 B5**	485	38	41.3	10	300	265	230	25	M12	210	**BN 132**	413	258	523	258
VF 210	**P160 B5**	460	42	45.3	12	350	300	250	22	18		**BN 160MR**	452	258	562	258
												BN 160M/L	486	310	626	310
VF 210	**P180 B5**	460	48	51.8	14	350	300	250	22	18		**BN 180M**	530	310	670	310
												BN 180L	598	348	756	348
VF 210	**P200 B5**	485	55	59.3	16	400	350	300	25	M16		**BN 200**	612	348	768	348
VF 210	**P225 B5**	490	60	64.4	18	450	400	350	22	18 #		**BN 225**				

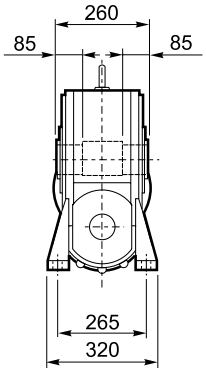
N° 8 fori a 45° / *N° 8 holes at 45°* / N. 8 Bohrungen 45° / *N. 8 trous 45°*

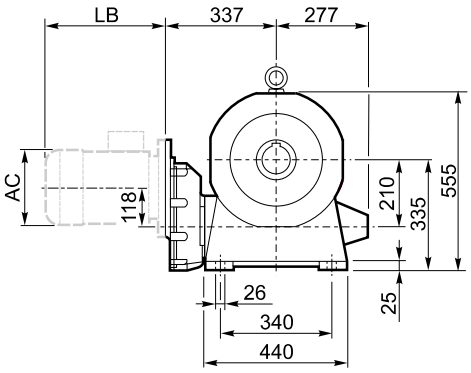
A



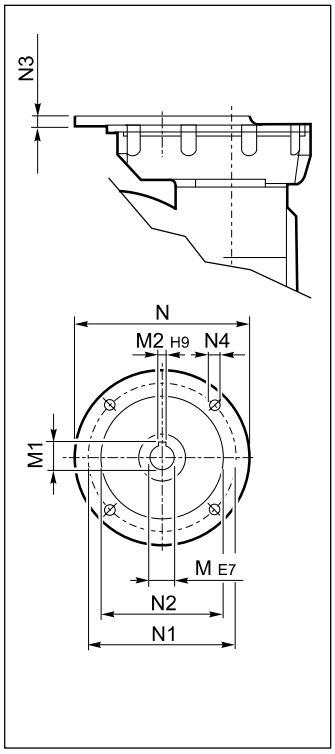


N

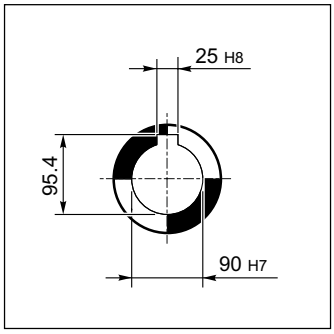




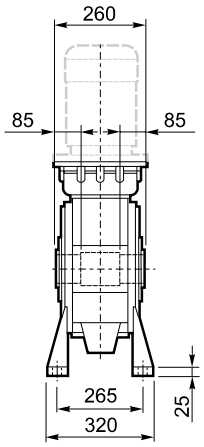
INPUT

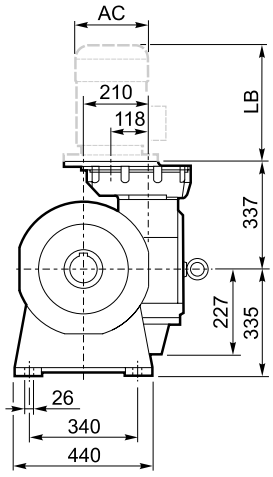


OUTPUT

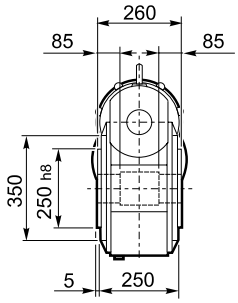


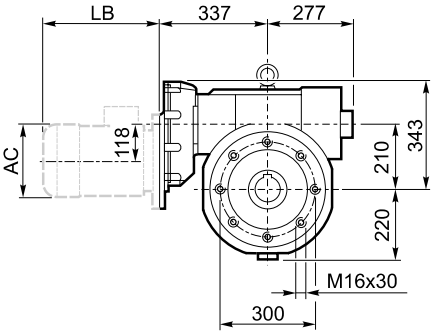
V



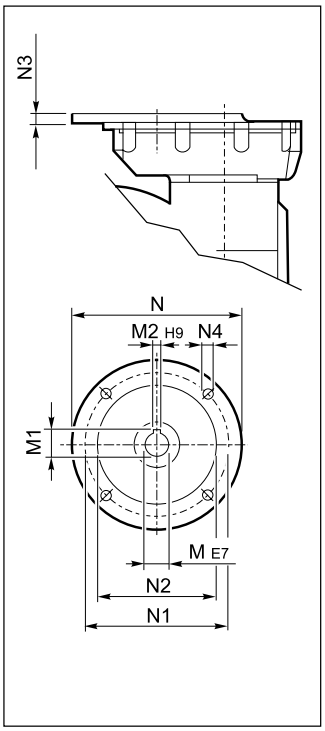


P

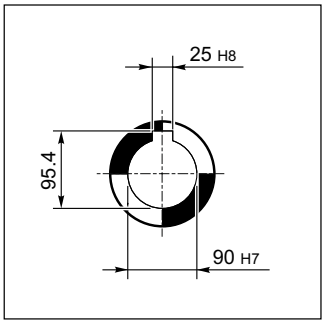




INPUT



OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Fan cooling as standard on versions A and P.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

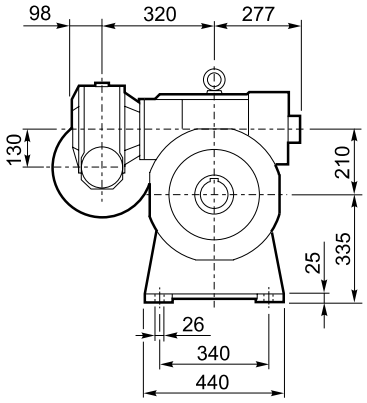
Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

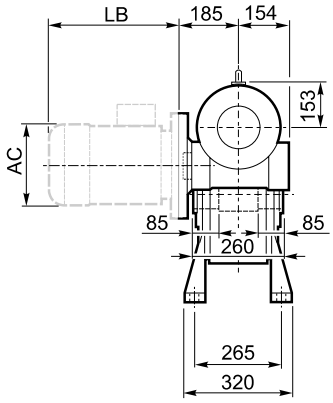
VFR 210_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	Kg	IEC	LB	AC	LB	AC
VRF 210	**P100 B5**	28 K6	31.3	8	250	215	180	13	M12x35	185	BN 100	307	195	398	195
VRF 210	**P112 B5**	28 K6	31.3	8	250	215	180	13	M12x35		BN 112	325	219	424	219
VFR 210	**P132 B5**	38 J6	41.3	10	300	265	230	13	M12x35		BN 132	413	258	523	258
VFR 210	**P160 B5**	42 J6	44.3#	12	350	300	250	18	M16x60		BN 160MR	452	258	562	258
											BN 160M/L	486	310	626	310

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

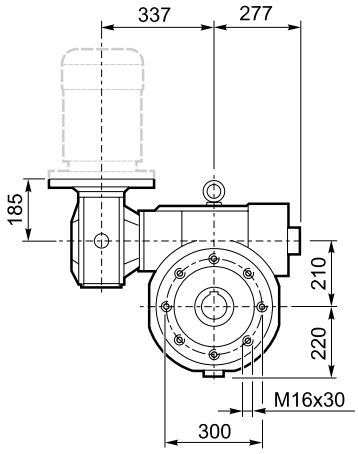
VF/VF 130/210□...P(IEC)

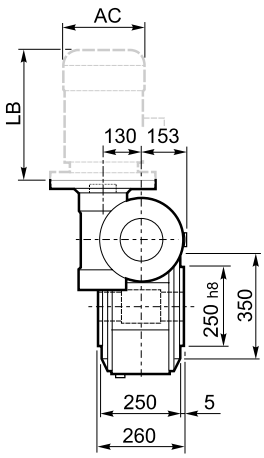
A





P





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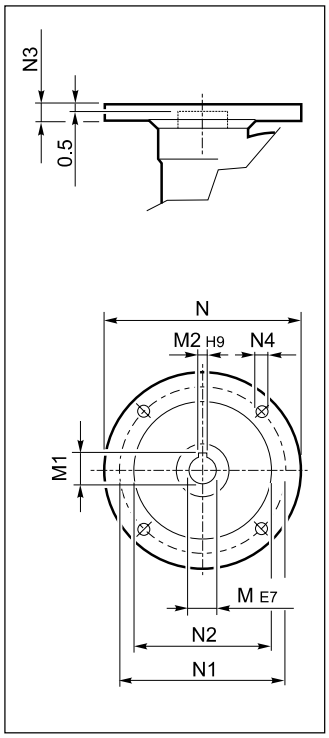

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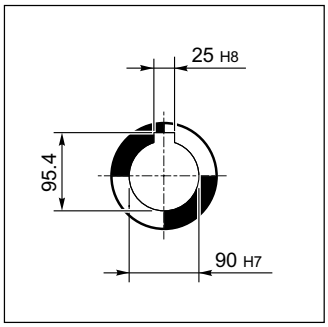


Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

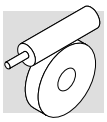
Fan cooling as standard on versions A and P.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

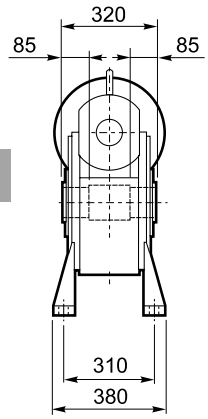
Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

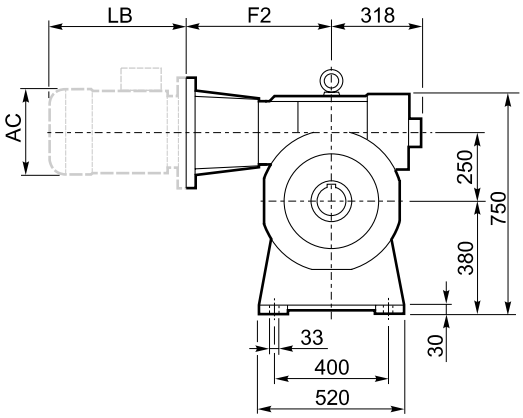
VF/VF 130/210_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	kg	IEC	LB	AC	LB	AC
VF/VF 130/210	**P90 B5**	24	27.3	8	200	165	130	17	11	225	BN 90	276	176	359	176
VF/VF 130/210	**P100 B5**	28	31.3	8	250	215	180	17	13		BN 100	307	195	398	195
VF/VF 130/210	**P112 B5**	28	31.3	8	250	215	180	17	13		BN 112	325	219	424	219
VF/VF 130/210	**P132 B5**	38	40.1#	10	300	265	230	17	13		BN 132	413	258	523	258

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

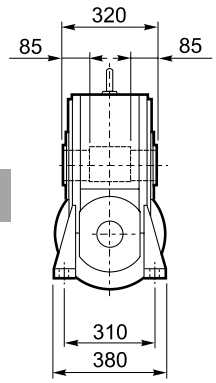


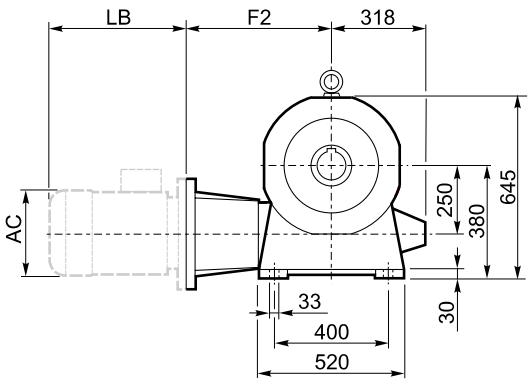
A





N





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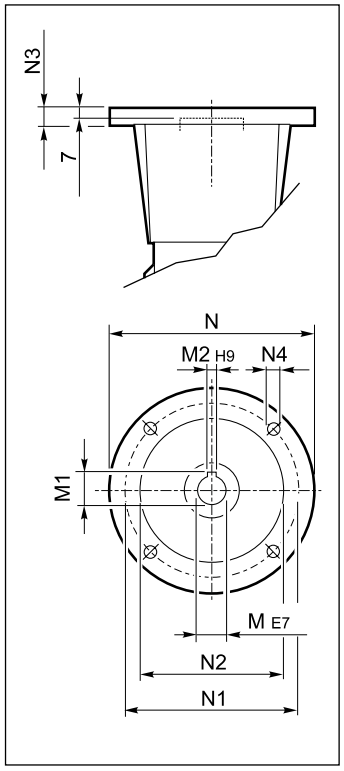
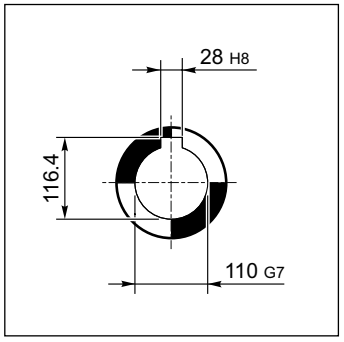
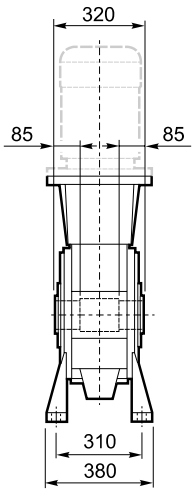
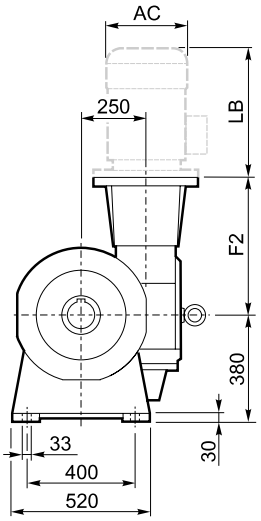


OUTPUT

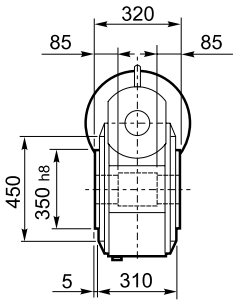


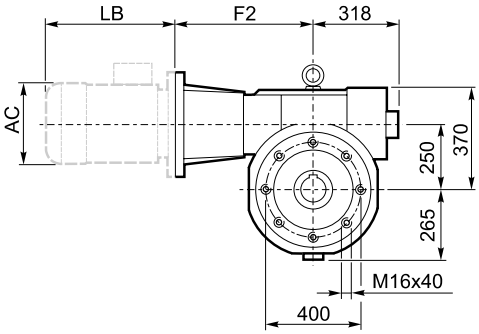
V



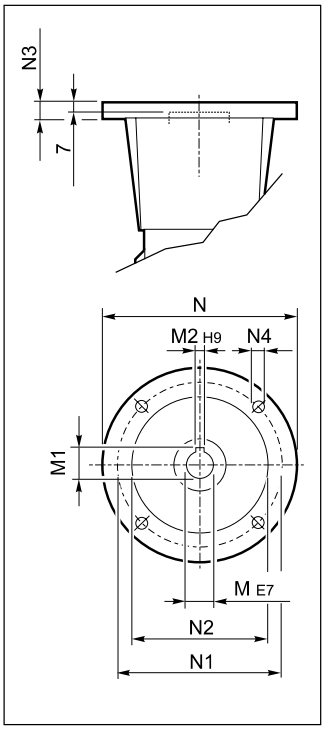


P

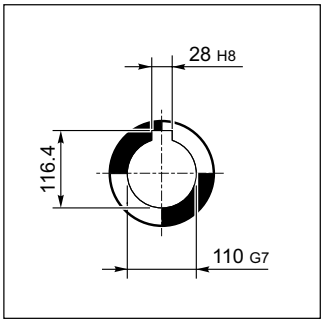




INPUT



OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Nell'esecuzione P(IEC) è prevista di serie la fornitura del giunto completo per attacco motore.

Fan cooling as standard on versions A and P.

P(IEC) arrangements come complete with gear coupling enclosed in the bell housing.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

Die Motorflansch-Ausführung wird serienmäßig mit kompletter Motorkupplung geliefert.

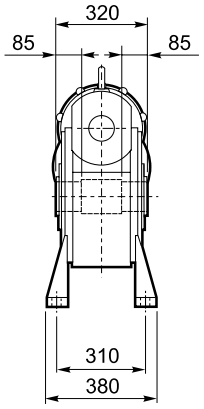
Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

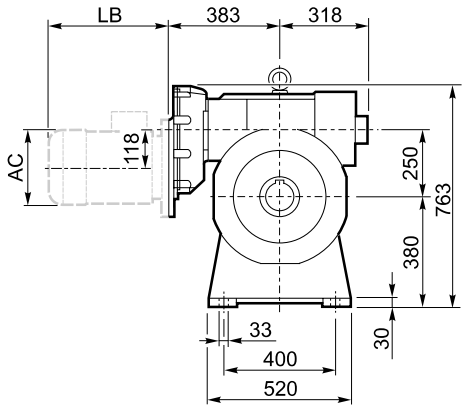
Dans la version P(IEC), la fourniture du joint complet d'accouplement moteur à été prévue de série.

VF 250_													BN		BN...FD BN...FA	
		F2	M	M1	M2	N	N1	N2	N3	N4	Kg	IEC	LB	AC	LB	AC
VF 250	P132 B5	531	38	41.3	10	300	265	230	25	M12	310	BN 132	413	258	523	258
VF 250	P160 B5	506	42	45.3	12	350	300	250	22	18		BN 160MR	452	258	562	258
												BN 160M/L	486	310	626	310
VF 250	P180 B5	506	48	51.8	14	350	300	250	22	18		BN 180M	530	310	670	310
												BN 180L	598	348	756	348
VF 250	P200 B5	531	55	59.3	16	400	350	300	25	M16		BN 200	612	348	768	348
VF 250	P225 B5	536	60	64.4	18	450	400	350	22	18#		BN 225				

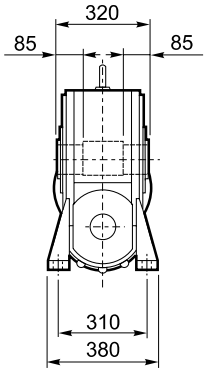
N° 8 fori a 45° / *N° 8 holes at 45°* / N. 8 Bohrungen 45° / *N. 8 trous 45°*

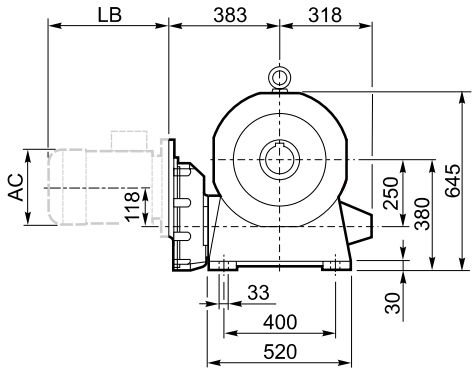
A



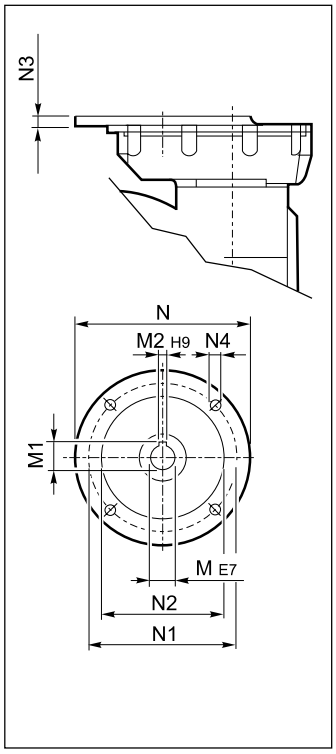


N

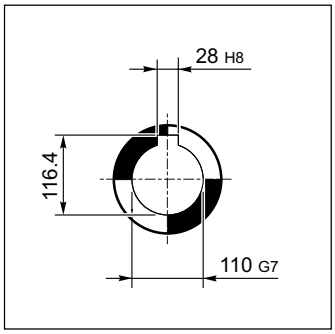




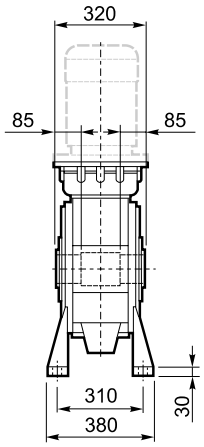
INPUT

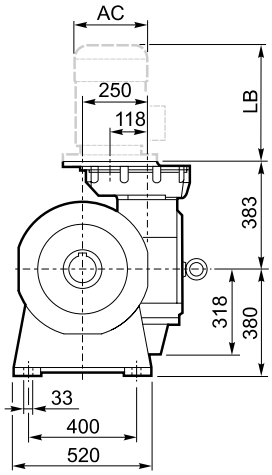


OUTPUT

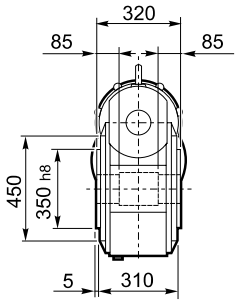


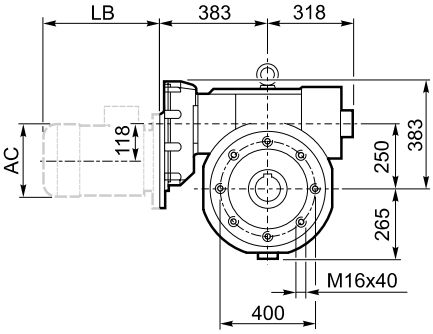
V





P





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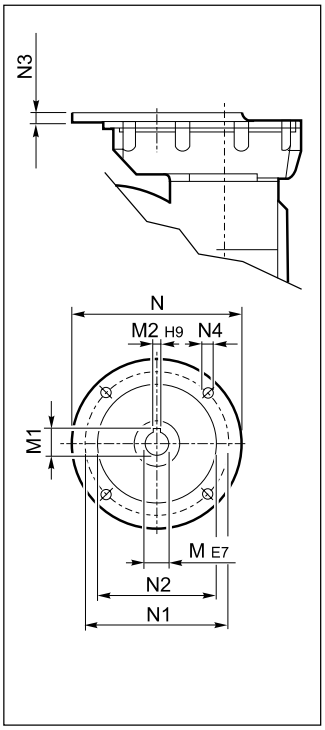
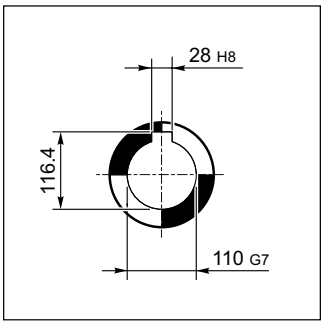


OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Fan cooling as standard on versions A and P.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

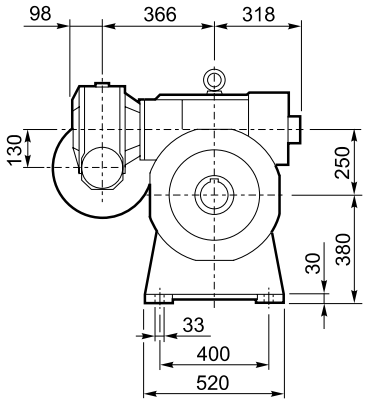
Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

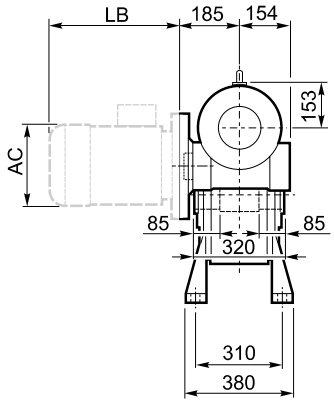
VFR 250_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	Kg	IEC	LB	AC	LB	AC
VRF 250	**P100 B5**	28 K6	31.3	8	250	215	180	13	M12x35	295	BN 100	307	195	398	195
VRF 250	**P112 B5**	28 K6	31.3	8	250	215	180	13	M12x35		BN 112	325	219	424	219
VFR 250	**P132 B5**	38 J6	41.3	10	300	265	230	13	M12x35		BN 132	413	258	523	258
VFR 250	**P160 B5**	42 J6	44.3#	12	350	300	250	18	M16x60		BN 160MR	452	258	562	258
											BN 160M/L	486	310	626	310

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

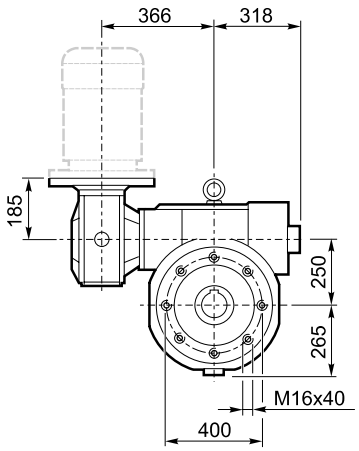
VF/VF 130/250□...P(IEC)

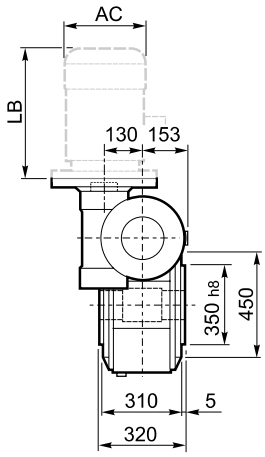
A





P





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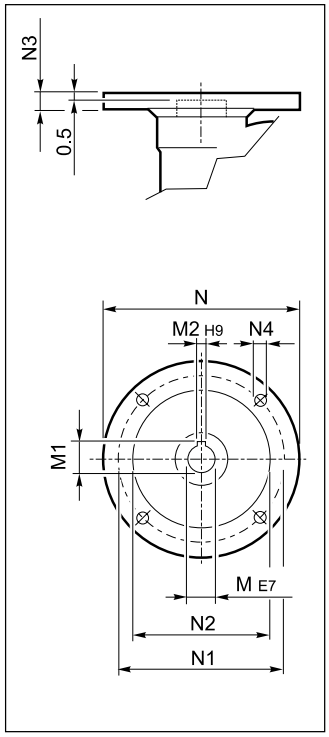
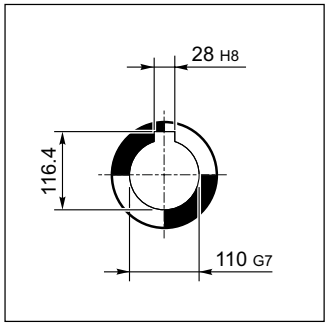


OUTPUT



Nelle forme costruttive A e P viene montata la ventola di raffreddamento.

Fan cooling as standard on versions A and P.

In den Ausführungen A und P wird das Lüfterrad eingebaud.

Dans les formes de construction A et P, il est prévu un ventilateur de refroidissement.

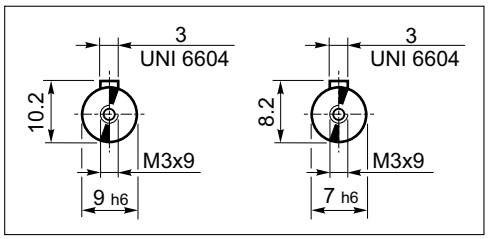
VF/VF 130/250_												BN		BN...FD BN...FA	
		M	M1	M2	N	N1	N2	N3	N4	Kg	IEC	LB	AC	LB	AC
VF/VF 130/250	**P 90 B5**	24	27.3	8	200	165	130	17	11	325	**BN 90**	276	176	359	176
VF/VF 130/250	**P100 B5**	28	31.3	8	250	215	180	17	13		**BN 100**	307	195	398	195
VF/VF 130/250	**P112 B5**	28	31.3	8	250	215	180	17	13		**BN 112**	325	219	424	219
VF/VF 130/250	**P132 B5**	38	40.1#	10	300	265	230	17	13		**BN 132**	413	258	523	258

Linguetta ribassata / *Lowered key* / Verkleinertes Paßfeder / *Clavette à hauteur réduite*

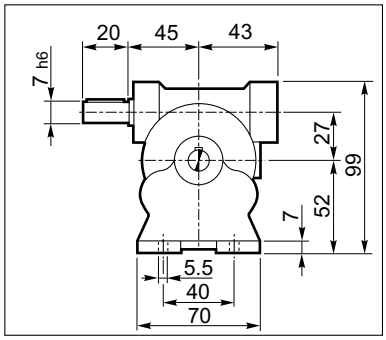
VF 27__HS

Albero uscita
Output shaft
Abtriebswelle
Arbre lent

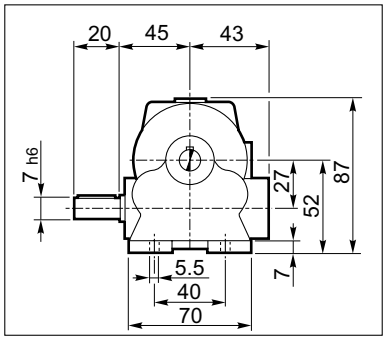
Albero entrata
Input shaft
Antriebswelle
Arbre rapide



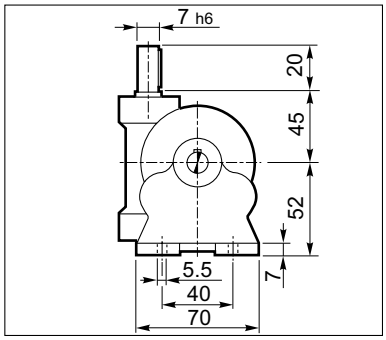
VF 27_A..HS



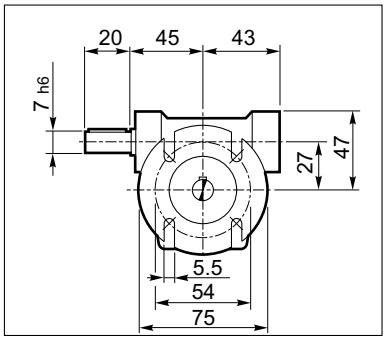
VF 27_N..HS

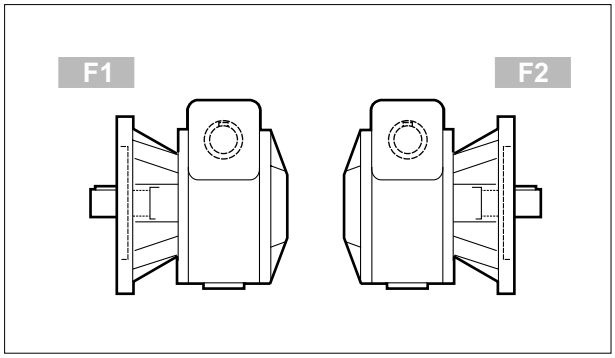


VF 27_V..HS



VF 27_F..HS





	Kg
VF 27_HS	0.73

Le dimensioni comuni alle altre configurazioni sono riportate a pag. 120.

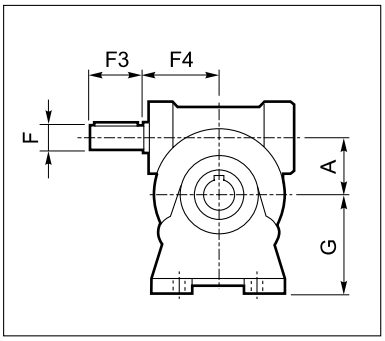
Dimensions common to the other configurations can be found at page 120.

Die mit den anderen Konfigurationen gemeinen Abmessungen sind auf Seiten 120.

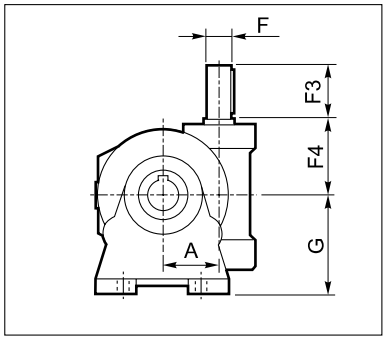
Les dimensions communes à toutes les autres configurations sont indiquées à la page 120.

VF__HS__W__HS

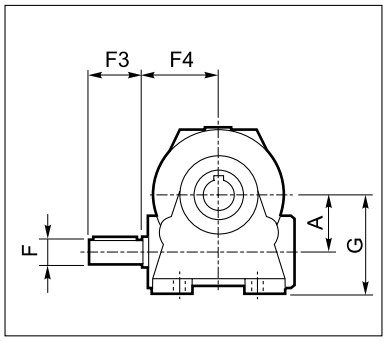
VF_A..HS



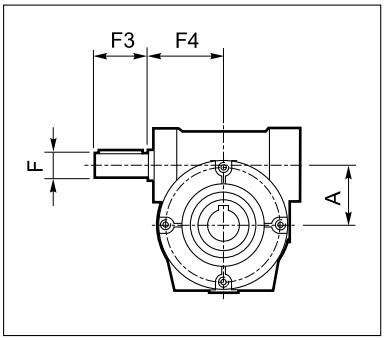
VF_V..HS



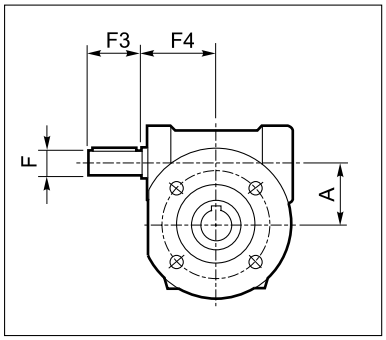
VF_N..HS



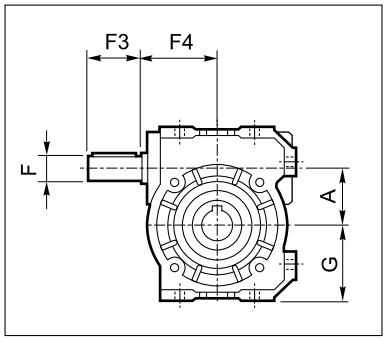
VF_P..HS



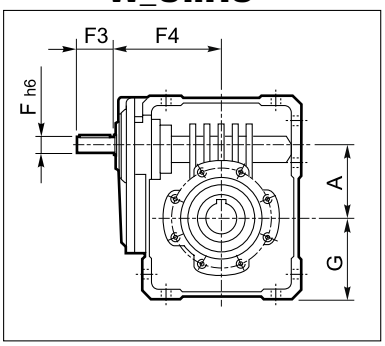
VF_FA/FC/FCR/ FR/F..HS



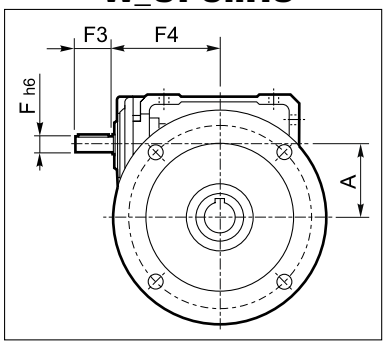
VF_U..HS

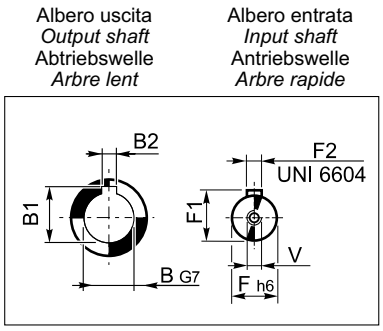


W_U..HS



W_UF..HS W_UFC..HS





	A	B	B1	B2	F	F1	F2	F3	F4	G	V	Kg
VF 30__HS	30	14	16.3	5	9	10.2	3	20	50	55	—	1.1
VF 44__HS	44.6	18	20.8	6	11	12.5	4	30	54	72	—	2.0
VF 49__HS	49.5	25	28.3	8	16	18	5	40	65	82	M6x16	3.0
W 63__HS	62.17	25	28.3	8	18	20.5	6	40	110.5	72.5	M6x16	6.4
W 75__HS	75	30(28)	33.3(31.3)	8	19	21.5	6	40	128	87	M6x16	10.0
W 86__HS	86.9	35	38.3	10	25	28	8	50	144	100	M8x19	14.1
W 110__HS	110.1	42	45.3	12	25	28	8	60	168	125	M8x19	39
VF 130__HS	130	45	48.8	14	30	33	8	60	160	195	M8x20	49
VF 150__HS	150	50	53.8	14	35	38	10	65	185	220	M8x20	60
VF 185__HS	185.4	60	64.4	18	40	43	12	70	214.5	254	M8x20	94
VF 210__HS	210	90	95.4	25	48	51.5	14	110	230	335	M16x40	175
VF 250__HS	250	110	116.4	28	55	59	16	110	274	380	M16x40	275

Le dimensioni comuni alle altre configurazioni sono riportate da pag. 122 a pag. 177.

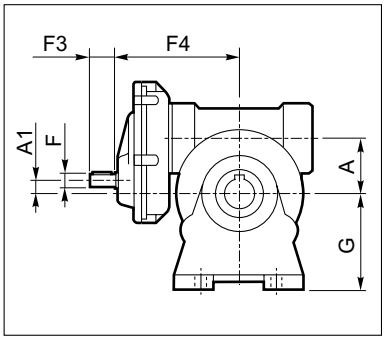
Dimensions common to the other configurations can be found from page 122 to 177.

Die mit den anderen Konfigurationen gemeinen Abmessungen sind auf Seiten 122 - 177 angegeben.

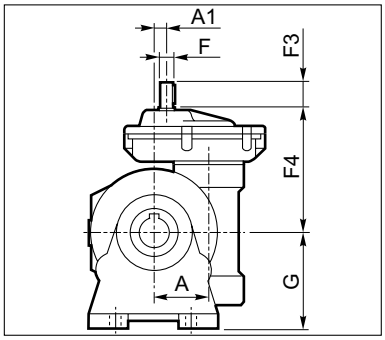
Les dimensions communes à toutes les autres configurations sont indiquées de la page 122 jusqu'à 177.

VFR__HS__WR__HS

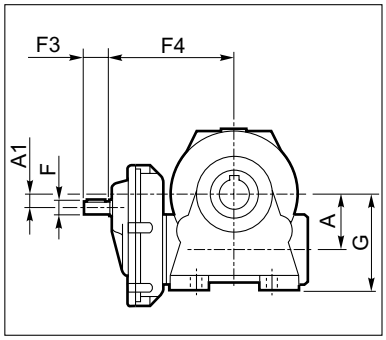
VFR_A..HS



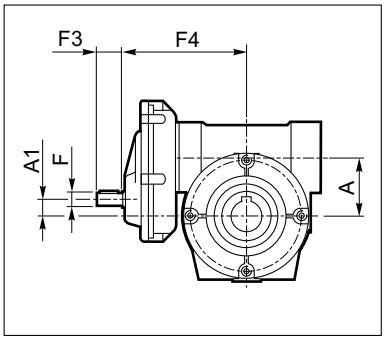
VFR_N..HS



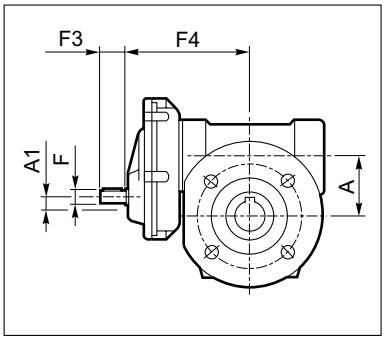
VFR_V..HS



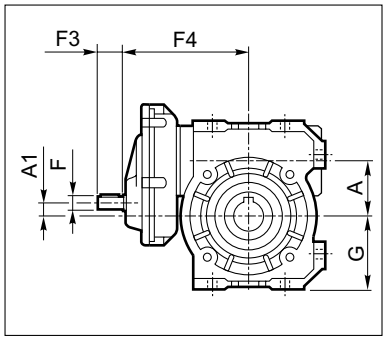
VFR_P..HS



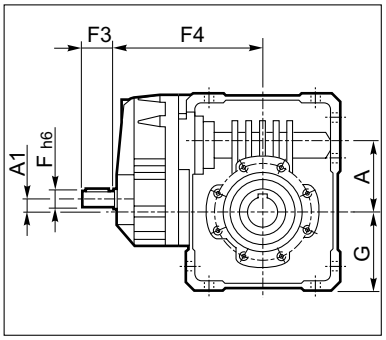
VFR_FA/FC/FCR/ FR/F..HS



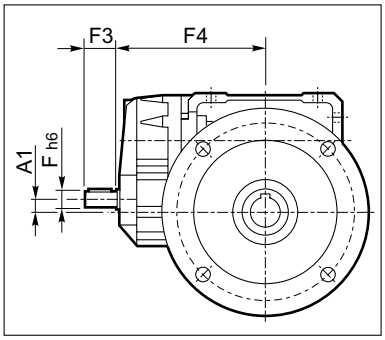
VFR_U..HS

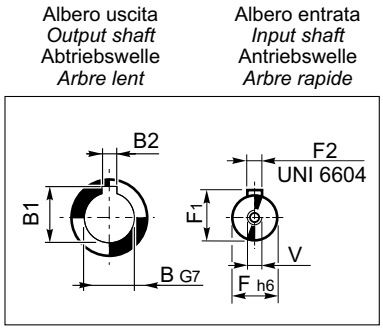


WR_U..HS



WR_UF..HS WR_UFC..HS





	A	A1	B	B1	B2	F	F1	F2	F3	F4	G	V	Kg
VFR 49__HS	49.5	10	25	28.3	8	11	12.5	4	23	110	82	M4x10	5
WR 63__HS	62.17	11.42	25	28.3	8	14	16	5	30	138	72.5	M5x12.5	7.1
WR 75__HS	75	11	30(28)	33.3(31.3)	8	19	21.5	6	40	162	87	M6x16	11.1
WR 86__HS	86.9	22.9	35	38.3	10	19	21.5	6	40	178	142	M6x16	14.7
WR 110__HS	110.1	21.1	42	45.3	12	24	27	8	50	201	125	M8x19	44
VFR 130__HS	130	45	45	48.8	14	24	27	8	50	228	195	M8x20	57
VFR 150__HS	150	53	50	53.8	14	28	31	8	60	280	220	M8x20	71
VFR 185__HS	185.4	88.4	60	64.4	18	28	31	8	60	310	254	M8x20	110
VFR 210__HS	210	92	90	95.4	25	38	41	10	80	337	335	M10x25	185
VFR 250__HS	250	132	110	116.4	28	38	41	10	80	383	380	M10x25	295

Le dimensioni comuni alle altre configurazioni sono riportate da pag. 132 a pag. 179.

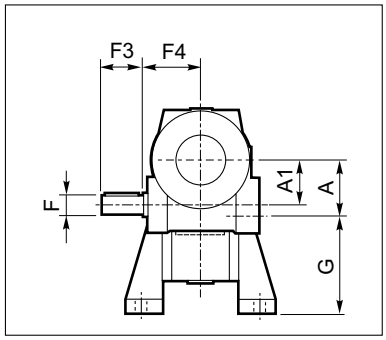
Dimensions common to the other configurations can be found from page 132 to 179.

Die mit den anderen Konfigurationen gemeinen Abmessungen sind auf Seiten 132 - 179 angegeben.

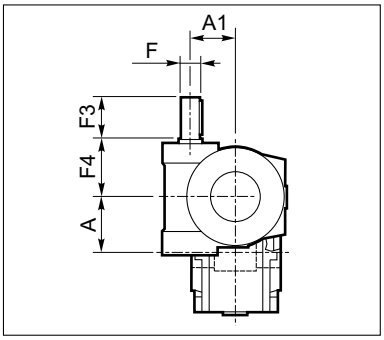
Les dimensions communes à toutes les autres configurations sont indiquées de la page 132 jusqu'à 179.

VF/VF__HS__VF/W__HS - W/VF__HS

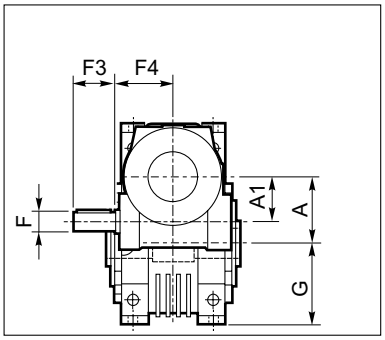
VF/VF_A..HS
W/VF_A..HS

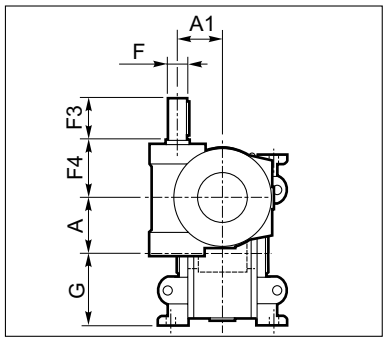


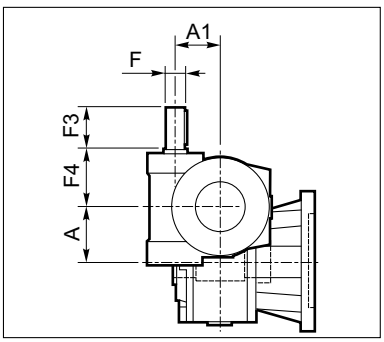
VF/VF_P..HS
W/VF_P..HS

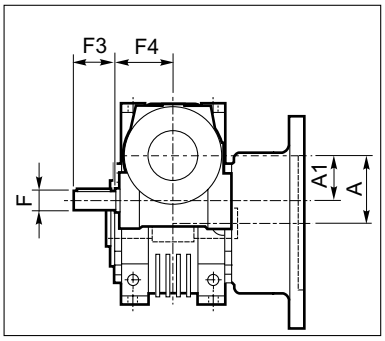


VF/VF_P..HS
W/VF_P..HS



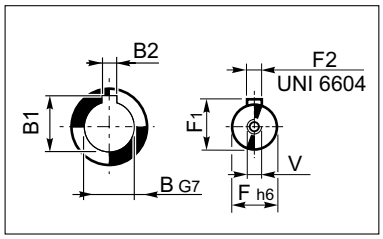






Albero uscita
Output shaft
Abtriebswelle
Arbre lent

Ibero entrata
Input shaft
Antriebswelle
Arbre rapide



	A	A1	B	B1	B2	F	F1	F2	F3	F4	G	V	Kg
VF/VF 30/44__HS	44.6	30	18	20.8	6	9	10.2	3	20	50	72	—	3.5
VF/VF 30/49__HS	49.5	30	25	28.3	8	9	10.2	3	20	50	82	—	4.5
VF/W 30/63__HS	62.17	30	25	28.3	8	9	10.2	3	20	50	100	—	7.5
VF/W 44/75__HS	75	44.6	30 (28)	33.3 (31.3)	8	11	12.5	4	30	54	115	—	16.1
VF/W 44/86__HS	86.9	44.6	35	38.3	10	11	12.5	4	30	54	142	—	42
VF/W 49/110__HS	110.0	49.5	42	45.3	12	16	18	5	40	65	170	M6x16	56
W/VF 63/130__HS	130	62.17	45	48.8	14	18	20.5	6	40	110.5	72.5	M6x16	74
W/VF 86/150__HS	150	86.9	50	53.8	14	25	28	8	50	144	100	M8x19	108
W/VF 86/185__HS	185.4	86.9	60	64.4	18	25	28	8	50	144	100	M8x19	109
VF/VF 130/210__HS	210	130	90	95.4	25	30	33	8	60	160	335	M8	225
VF/VF 130/250__HS	250	130	110	116.4	28	30	33	8	60	160	380	M8	325

Le dimensioni comuni alle altre configurazioni sono riportate da pag. 128 a pag. 180.

Dimensions common to the other configurations can be found from page 128 to 180.

Die mit den anderen Konfigurationen gemeinen Abmessungen sind auf Seiten 128 - 180 angegeben.

Les dimensions communes à toutes les autres configurations sont indiquées de la page 128 jusqu'à 180.

26 - OPZIONI

RB RBO

I riduttori a vite senza fine (escluso VF 27) possono essere forniti, a richiesta, con l'albero veloce sporgente sul lato opposto comando specificando nell'ordinativo l'opzione **RB**, oppure **RBO** (solo per gruppi in esecuzione combinata).

26 - OPTION

RB RBO

*Worm gears (with the exception of VF 27) can be optionally requested with extended wormshaft at NDE by specifying the option **RB** or **RBO** (for double worm combined units) at the time of order.*

32 - OPTIONEN

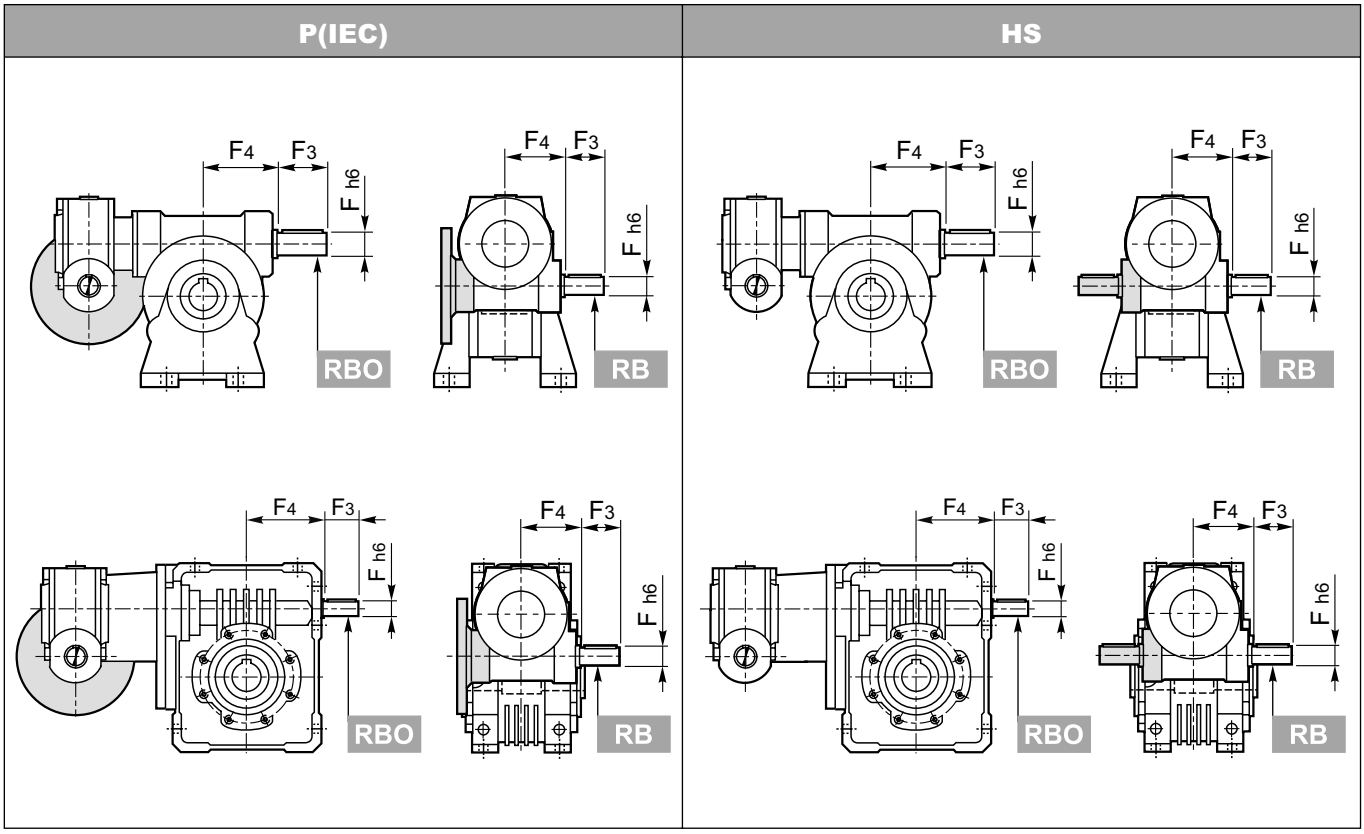
RB RBO

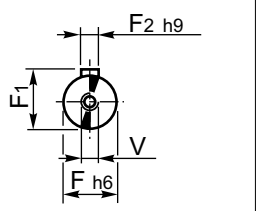
Alle Schneckengetriebe (auâer VF 27) können auf Anfrage bzw. unter Angabe des Optionswunsches **RB** oder **RBO** (nur für Doppelschneckengetriebe) mit einer frei hervorstehenden Schneckenwelle geliefert werden.

32 - OPTIONS

RB RBO

*Les réducteurs à vis sans fin (sauf VF 27) peuvent être fournis, sur demande, avec la vis sortante, en indiquant l'option **RB** ou **RBO** (réducteur combine seulement).*





Albero sporgente
Extended input shaft
Frei hervorstehende welle
Arbre sortant

		F	F1	F2	F3	F4	V
VF VFR VF/VF	**30**	9	10.2	3	20	50	-
	44	11	12.5	4	30	56	-
	49	16	18	5	40	65	M6
W WR VF/W	**63**	18	20.5	6	40	74	M6
	75	19	21.5	6	40	88.5	M6
	86	25	28	8	50	101.5	M8
	110	25	28	8	60	127.5	M8
VF VFR W/VF	**130**	30	33	8	60	160	M8
	150	35	38	10	65	185	M8
	185	40	43	12	70	214.5	M8
	210	48	51.5	14	82	185	M16x40
	250	55	59	16	82	228	M16x40

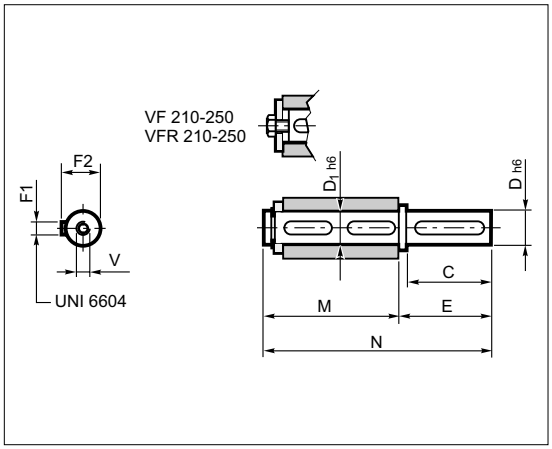
Per VF 210 e VF 250, nelle forme costruttive A e P, normalmente viene montata la ventola di raffreddamento; con l'opzione RB non è possibile applicarla.

A and P versions of VF 210 and VF 250 feature the fan cooling as a standard, however forced ventilation is not feasible should the RB option be specified.

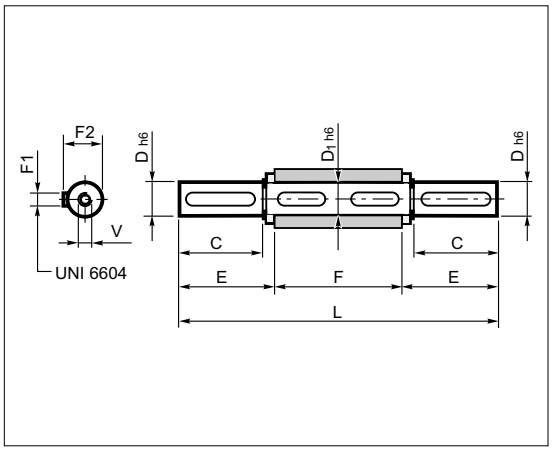
Für VF 210-250, in den Baumodellen A und P, wird in der Regel ein Kühlungsgebläse montiert; mit der Option RB kann dieses nicht montiert werden.

Sur les projets A et P on monte d'habitude les ventilateurs de refroidissement qui n'est pas prévue avec l'option RB.

27.1 Albero lento riportato — *27.1 Plug-in output shaft* — 27.1 Ausgangsteckwelle — *27.1 Arbre lent rapporté*



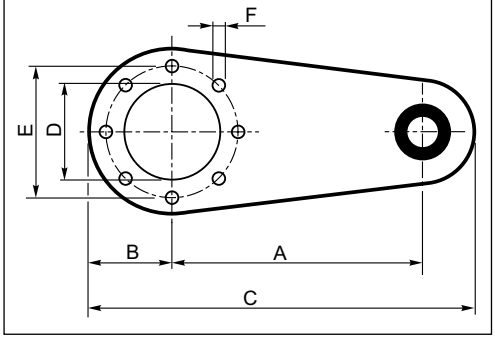
		C	D	D1	E	F1	F2	M	N	V
VF VFR VF/VF	30	30	14	14	35	5	16	61	96	M5x13
	44	40	18	18	45	6	20.5	70	115	M6x16
	49	60	25	25	65	8	28	89	154	M8x19
W WR VF/W	63	60	25	25	65	8	28	127	192	M8x19
	75_D28	60	28	30	65	8	31	134	199	M8x20
	75_D30	60	30	30	65	8	33	134	199	M10x22
	86	60	35	35	65	10	38	149	214	M12x22
	110	75	42	42	80	12	45	164	244	M12x28
VF VFR W/VF	130	80	45	45	85	14	48.5	176	261	M12x32
	150	85	50	50	93	14	53.5	185	278	M16x40
	185	100	60	60	110	18	64	200	310	M16x40
	210	130	90	90	140	25	95	255	395	M20x50
	250	165	110	110	175	28	116	315	490	M24x64



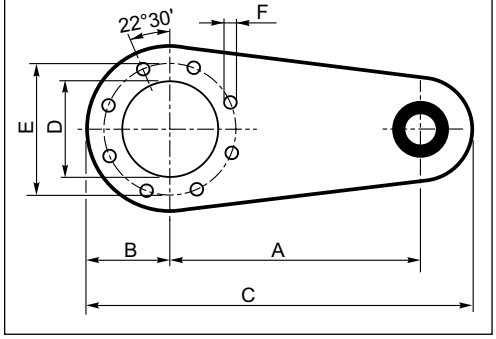
		C	D	D1	E	F	F1	F2	L	V
VF VFR VF/VF	30	30	14	14	32.5	55	5	16	120	M5x13
	44	40	18	18	42.7	64	6	20.5	149.4	M6x16
	49	60	25	25	63.2	82	8	28	208.4	M8x19
W WR VF/W	63	60	25	25	63.2	120	8	28	246.4	M8x19
	75_D28	60	28	30	64	127	8	31	255	M8x20
	75_D30	60	30	30	64	127	8	33	255	M10x22
	86	60	35	35	64	140	10	38	268	M12x22
	110	75	42	42	79.3	155	12	45	313.5	M12x28
VF VFR W/VF	130	80	45	45	84.7	165	14	48.5	334.5	M12x32
	150	85	50	50	90	175	14	53.5	355	M16x40
	185	100	60	60	105	190	18	64	400	M16x40
	210	130	90	90	140	260	25	95	540	M20x50
	250	165	110	110	175	320	28	116	670	M24x64

27.2 Braccio di reazione — *27.2 Torque arm* — 27.2 Drehmomentstütze — *27.2 Bras de réaction*

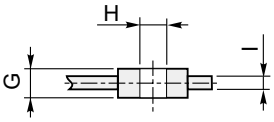
VF



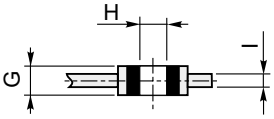
W



VF 30 - VF 44 - VF 49



Privo di boccola antivibrante
Without vibration-dampening bushing
Ohne Vibrationsschutzbuchse
Sans douille antivibratoire



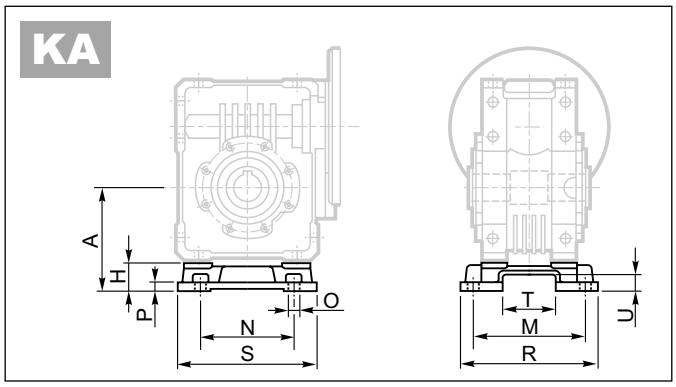
		A	B	C	D	E	F	G	H	I
VF VFR VF/VF	30	100	40	157.5	50	65	7	14	8	4
	44	100	40	157.5	50	65	7	14	8	4
	49	100	55	172.5	68	94	7	14	8	4
W WR VF/W	63	150	55	233	75	90	9	20	10	6
	75	200	63	300	90	110	9	25	20	6
	86	200	80	318	110	130	11	25	20	6
	110	250	100	388	130	165	13	25	20	6
VF VFR W/VF	130	300	125	470	180	215	13	30	25	6
	150	300	125	470	180	215	15	30	25	6
	185	350	150	545	230	265	17	30	25	6
	210	350	175	625	250	300	19	60	50	8
	250	400	225	725	350	400	19	60	50	10

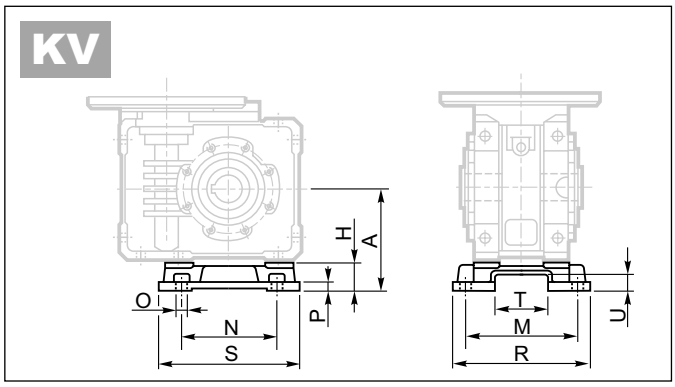
27.3 Kit piedi KA, KV

27.3 VF-interchangeable foot kits KA, KV

27.3 Satz - Stützfüße

27.3 Kit pieds KA, KV





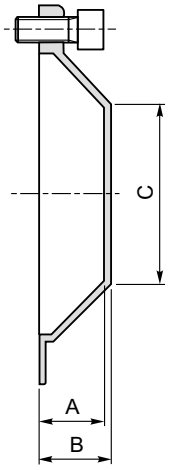
	A	H	M	N	O	P	R	S	T	U
W 63 - WR 63	100	27.5	111	95	11	8	135	145	56.5	15.5
W 75 - WR 75	115	28	115	120	11	9	139	174	56.5	15.5
W 86 - WR 86	142	42	146	140	11	11	170	200	69	20
W 110 - WR 110	170	45	181	200	13	14	210	250	69	20

27.4 Cappellotto di protezione

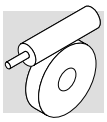
27.4 Safety cover

27.4 Schutzdeckel

27.4 Capuchon de protection



	A	B	C
W 63 - WR 63	26.5	29	Ø35
W 75 - WR 75	24.5	27	Ø54
W 86 - WR 86	26.5	29	Ø71
W 110 - WR110	27.5	30	Ø89



28 - ALBERO CLIENTE

28.1 Istruzioni per la realizzazione

Nel realizzare l'albero condotto che si accoppierà con il riduttore consigliamo di utilizzare acciaio di buona qualità e di realizzare le dimensioni come suggerito nello schema seguente.
Suggeriamo inoltre di completare il montaggio con un dispositivo che realizza il bloccaggio assiale dell'albero (non illustrato).
Il numero e la dimensione del/i relativi fori filettati all'estremità dell'albero saranno determinati dalle diverse esigenze applicative.

28 - CUSTOMER'S SHAFT

28.1 Manufacturing instructions

Pivot of driven equipment should be made from high grade alloy steel.

Table below shows recommended dimensions for the Customer to consider when designing mating shaft.
A device retaining the shaft axially is also recommended (not shown).
The number and size of relative tapped holes at shaft end depend on application requirements.

28 - KUNDENSEITIGE WELLEN

28.1 Konstruktionsrichtlinien

Für die mit dem Getriebe verbundene Antriebswelle, wird empfohlen, hochwertigen Stahl zu verwenden und die im folgenden Schema enthaltenen Abmessungen zu beachten. Es wird außerdem empfohlen, die Montage mit Hilfe einer Vorrichtung, die die Welle axial blockiert (nicht abgebildet), vorzunehmen.
Die Anzahl und die Abmessung des/der Gewindebohrungen an den Wellenenden werden den Einsatzbedingungen gemäß festgelegt.

28 - ARBRE MACHINE

28.1 Instructions pour la réalisation

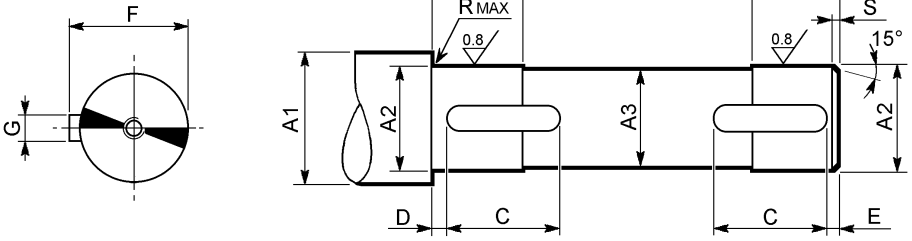
Pour la réalisation de l'arbre mené d'accouplement avec le réducteur, nous conseillons d'utiliser de l'acier de bonne qualité et de respecter les dimensions indiquées sur le schéma suivant.
Il est recommandé de compléter le montage par un dispositif de blocage axial de l'arbre (non illustré).
Le nombre et les dimensions de (s) l'orifice (s) fileté (s) correspondant(s) à l'extrémité de l'arbre sont déterminés par les différentes exigences d'application.

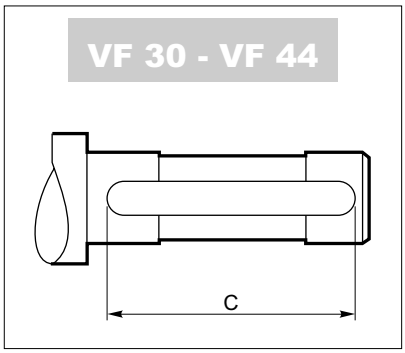
28.2 Serie VF e W

28.2 Series VF and W

28.2 Series VF und W

28.2 Série VF et W





	A1	A2	A3	B	B1	B2	C	D	E	F	G	R	S	UNI 6604
VF 30	≥ 19	14 f7	13	53	18.5	16	40	6.5	6.5	16	5 h9	0.5	1.5	5x5x40 A
VF 44	≥ 23	18 f7	17	62	22.5	17	50	6	6	20.5	6 h9	0.5	1.5	6x6x50 A
VF 49	≥ 30	25 f7	24	80	20.5	39	20	2	2	28	8 h9	1	1.5	8x7x20 A
W 63	≥ 30	25 f7	24	118	38	42	35	2	2	28	8 h9	1	1.5	8x7x35 A
W 75	≥ 35	28 f7	27	125	38	49	40	2	2	31	8 h9	1	1.5	8x7x40 A
	≥ 35	30 f7	29	125	38	49	40	2	2	33	8 h9	1	1.5	8x7x40 A
W 86	≥ 42	35 f7	34	138	43	52	40	2	2	38	10 h9	1.5	1.5	10x8x40 A
W110	≥ 48	42 f7	41	153	43	67	50	2	2	45	12 h9	1.5	2	12x8x50 A
VF 130	≥ 52	45 f7	44	163	50.5	62	60	2.5	2.5	49.5	14 h9	2.5	2	14x9x60 A
VF 150	≥ 57	50 f7	49	173	53	67	70	2.5	2.5	53.5	14 h9	2.5	2	14x9x70 A
VF 185	≥ 68	60 f7	59	188	63	62	80	2.5	2.5	64	18 h9	2.5	2	18x11x80 A
VF 210	≥ 99	90 f7	89	258	83	92	80	3	3	95	25 h9	2.5	2.5	25x14x80 A
VF 250	≥ 121	110 h7	109	318	83	152	80	3	3	116	28 h9	2.5	2.5	28x16x80 A

29 - LIMITATORE DI COPPIA

29.1 Descrizione

Il limitatore di coppia a frizione è studiato e realizzato per i riduttori senza fine **VF44 - VF49** e **W63…W110**, è un dispositivo di protezione atto a salvaguardare la trasmissione da sovraccarichi accidentali che potrebbero danneggiare tutti gli elementi della trasmissione creando seri inconvenienti alla macchina operatrice.
Rispetto ai tradizionali limitatori di coppia montati esternamente al riduttore questa versatile soluzione presenta i seguenti vantaggi:

- nessun ingombro aggiuntivo esterno ai riduttori forniti in versione standard
- lavorando a completo bagno d'olio non richiede nessuna manutenzione
- la coppia di slittamento puo essere facilmente regolata tramite una semplice operazione manuale dall'esterno del riduttore
- lo slittamento, anche continuo, non crea danneggiamenti alla meccanica o consumi anormali, in quanto le superfici di slittamento sono separate da un costante velo d'olio.

Se ne sconsiglia l'utilizzo in meccanismi di sollevamento.

29.2 Modo di funzionamento

Il limitatore di coppia funziona come una frizione biconica con le sedi ricavate direttamente sulla corona in bronzo e sul mozzo in ghisa sferoidale GS400/12 monolitica avente l'albero lento cavo passante, il quale permette di collegare la macchina operatrice direttamente al nostro riduttore.
Le sedi coniche sono strette fra loro per effetto di una forza assiale costante generata da molle a tazza.
La registrazione della coppia di slittamento si effettua in modo semplice tramite la rotazione di una ghiera esterna al riduttore.

29 - TORQUE LIMITER

29.1 Description

*The friction-based torque limiter, available for wormgears type **VF44 - VF49** and **W63…W110**, is designed to protect the transmission from accidental overloads which could damage the drive elements.*
Against conventional external torque limiters, this versatile solution lends the following advantages:

- *unchanged external dimensions against standard same model standard units*
- *maintenance-free, as the system is permanently lubed*
- *slip torque can be easily adjusted by means of a simple manual operation from the outside of the gearbox*
- *slipping, even if continuous, does not create any damage or wear to the mechanical parts, since slipping parts are constantly separated by an oil film.*

We advise against installing this device to lifting equipment.

29.2 Operating principle

The torque limiter basically consists of a double tapered clutch with active surfaces machined on (bronze) worm wheel and hub of output shaft (nodular cast iron GS400/12). Bore of output shaft allows shaft mounting of gear unit onto driven machine.
Active surfaces of the torque limiter are pressed against each other by thrust generated by adequately proportioned spring washers. Transmissible torque is proportional to axial force applied by the springs and adjustment of torque setting is easily conducted manually through an external ring nut.

29 - RUTSCHKUPPLUNG

29.1 Beschreibung

Die Rutschkupplung, die für Schneckengetriebe **VF44 - VF49** und **W63…W110**, entwickelt wurde, dient dem Schutz des Getriebes vor zufälligen Überlastungen, welche die Antriebselemente zerstören könnten.
Bezüglich traditioneller Rutschkupplungen, welche extern an das Getriebe angeschlossen werden, bietet diese Lösung folgende Vorteile:

- gleiche Aussen-Abmessungen des Getriebes wie das Standard gehâuse
- wartungsfrei, da das System in Ölbad arbeitet
- das maximal übertragbare Moment kann einfach, per Hand, von aussen eigenstellt werden
- ständiges Rutschen verursacht keinen Schaden, da die mechanischen Teile im Ölbad laufen.

Von einer Montage in Hebemechanismen wird abgeraten.

29.2 Funktonsweise

Die Rutschkupplung arbeitet wie eine doppelkonische Reiblfâche, die direkt auf einen aus Sphâroguss bestehenden Innenring GS 400/12 des Bronze- schneckenrades wirkt.
Die axiale Anpresskraft, die die konischen Reibflâchen zusammendruckt, wird von Tellerfedern erzeugt.
Die Einstellung des Rutschmomentes kann in einer einfachen Weise durch Drehen einer Verstellmutter, ausserhalb des Getriebes, erreicht werden.

29 - LIMITER DE COUPLE

29.1 Description

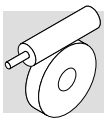
*Le limiteur de couple à friction, étudiè et réalisé pour les réducteurs à vis sans fin, type **VF44 - VF49** et **W63…W110**, est un dispositif de sécurité qui a pour but de protéger la chaîne cinématique des surcharges accidentelles qui pourraient endommager tous les éléments de la transmission.*
Par rapport au montage du limiteur de couple traditionnel à l'extérieur du réducteur, cette solution, d'une grande souplesse d'emploi, offre les avantages suivants:

- *aucune différence des cotes d'encombrement par rapport au réducteur standard*
- *aucun entretien, car le systeme fonctionne en bain d'huile*
- *le couple maximum transmissible peut être facilement ajusté par une manoeuvre simple a l'extérieur du réducteur*
- *le glissement, même continu, ne crée aucun dommage ni usure aux parties mécaniques, du fait de la séparation des surfaces en glissement par un film d'huile d'epaisseur constante.*

Son utilization dans des mécanismes de levage est déconseillée.

29.2 Mode de fonctionnement

Le limiteur de couple fonctionne comme une friction bi-conique entre des surfaces de contact obtenues directement sur la couronne en bronze, un moyeu en fonte à graphite sphéroidal GS400/12 monolithique et un arbre de sortie creux traversant, permettant une liaison directe à la machine.
Les surfaces coniques sont maintenues en pression par un effort axial constant, généré par les rondelles élastiques.
Le réglage du couple de glissement s'effectue d'une façon simple à travers le serrage d'un écrou extérieur au réducteur.



29.3 Protezione dell'impianto da sovraccarichi

Il limitatore opportunamente tarato alla coppia necessaria alla macchina operatrice, salvaguarda tutti gli organi meccanici del cinematismo evitando danneggiamenti dovuti a eventuali e ripetuti sovraccarichi.

29.3 Protection of the machine from overloads

The torque limiter, properly adjusted in function of the torque necessary for the driven equipment, protects all mechanical components of the transmission avoiding any damage due to overloads.

29.3 Schutz der Arbeitsmaschine vor Uberlastungen:

Die Rutschkupplung ist eingestellt auf das notwendige Moment der Arbeitsmaschine und schützt alle mechanischen Teile der Übertragungseinheit. Weiter vermeidet sie Beschädigungen hervorgenannten durch mögliche Überlastungen.

29.3 Protection de l'installation contre les surcharges:

Le limiteur, correctement réglé au couple nécessaire pour la machine protège tous les organes mécaniques de la chaîne cinématique, en évitant des endommagements dus à d'éventuelles et répétitives surcharges.

29.4 Disinserimento in condizioni di irreversibilità

In determinate applicazioni può essere utile ruotare, a macchina ferma, l'albero lento del riduttore. Questa situazione non e sempre possibile nei riduttori a vite senza fine tradizionali. Tramite questo dispositivo, allentando opportunamente la ghiera di registrazione, possiamo eseguire agevolmente questa operazione.

29.4 Reversing of a self-locking unit

In some applications it may be desired to rotate the output shaft while machine is not operating. Such a situation is not always possible with high-ratio self-locking worm gears. Using the torque limiter it is possible to conduct such operation untightening the ring nut.

29.4 Auskuppeln bei Selbsthemmung

In einigen Anwendungsfällen ist es nötig die Ausgangswelle des Getriebes zu drehen wâhrend die Arbeitsmaschine steht: Dies ist bei einem normalen Schneckengetriebe nicht möglich. Die Verwendung der Rutschkupplung macht es möglich, wenn vorher die Verstellmutter gelöst wird.

29.4 Décrabotage en cas d'irréversibilité

Dans certains applications, il peut être utile de faire tourner, machine arrêtée, l'arbre lent du réducteur. Cette solution n'est pas toujours possible avec les réducteurs à roue est vis sans fin traditionnels. A l'aide de ce dispositif, en desserrant l'écrou de réglage, il est possible de procéder facilement à cette opération.

29.5 VF…L, W…L

29.5 VF…L, W…L

L1

	N	A	V	U	F1 FC1 FR1 FA1	F2 FC2 FR2 FA2	P1 P2
VF VF/VF							
	U	**UF1 UFC1**	**UF2 UFC2**	**UFCR1**	**UFCR2**		
W VF/W			⛔		⛔		

L2

	N	A	V	U	F1 FC1 FR1 FA1	F2 FC2 FR2 FA2	P1 P2
VF VF/VF							
	U	**UF1 UFC1**	**UF2 UFC2**	**UFCR1**	**UFCR2**		
W VF/W		⛔		⛔			

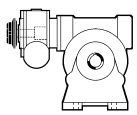
* Nei riduttori combinati, il limitatore di coppia è installato sul 2° riduttore nelle esecuzioni L1 ed L2; è installato sul 1° riduttore nell'esecuzione LF.

** On double worm gear units the torque limiter is fitted on 2nd reducer (larger size) for the L1 or L2 configurations. Same is fitted on 1st reducer (smaller) when the LF configuration is specified.*

* In den Doppelschneckengetrieben Typ VF/VF ist das Drehmomentstutz auf das 2te Getriebe für die Ausführungen L1 oder L2 installiert; es ist auf das 1te Getriebe für Ausführung LF installiert.

** Dans les réducteurs combinés VF/VF, le limiteur de couple en position L1 et L2 est monté sur le 2me réducteur, en position LF il est monté sur le 1er réducteur.*

LF



VF/W	44/75	44/86	49/110
W/VF	63/130	86/150	86/185

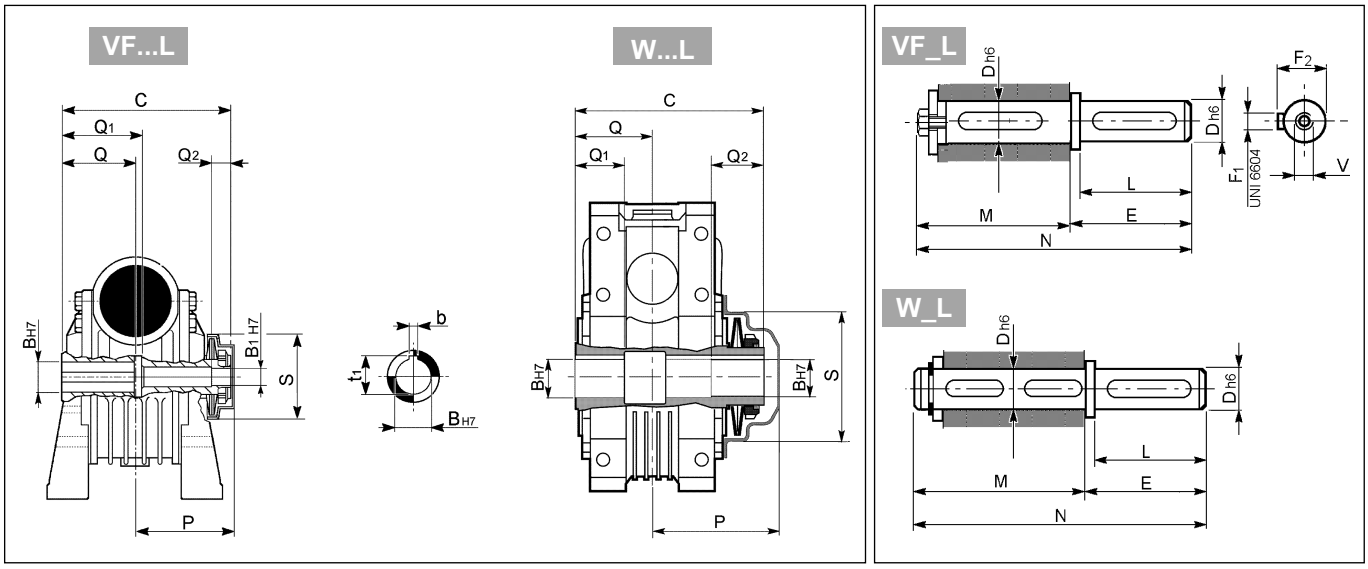
Se non preventivamente specificato, i riduttori VF…L verranno forniti con la ghiera a sinistra (L1) guardando il motore elettrico in posizione di montaggio B3.

Unless otherwise specified VF…L gear units are supplied with ring nut on the left hand side (L1), viewing from the electric motor and gearbox in the B3 mounting position.

Wenn nicht anders angegeben, werden die Getriebe VF…L geliefert mit der Verstellmutter links (L1), mit Sicht auf den E-Motor.

En standard et en l'absence d'information précise, les réducteurs VF…L seront livrés avec le système de décrabotage à gauche (L1), vue se plaçant du côté du moteur électrique.

29.6 Dimensioni ***29.6 Dimensions*** **29.6 Abmessungen** ***29.6 Dimensions***



	Limitatore di coppia / *Torque limiter* Rutschkupplung / *Limiteur de couple*										Albero lento semplice / *Single output shaft* Ein freies Wellenende / *Arbre lent unilateral*							
	C	**Q**	**Q1**	**Q2**	**P**	**S**	**B H7**	**B1 H7**	**t1**	**b**	**L**	**D h6**	**E**	**F1**	**F2**	**M**	**N**	**V**
VF 44L	79	32	32	12	48	42.5	18	11	20.8	6	40	18	45	6	20.5	86	131	M6x16
VF 49L	105	41	51	15	63.5	66.5	25	14	28.3	8	60	25	65	8	28	114.5	179.5	M8x19
W 63L	145	60	40	40	100	77	25	-	28.3	8	60	25	65	8	28	152	217	M8x19
W 75L_D30	154.5	63.5	40	40	104	100	30	-	33.3	8	60	30	65	8	33	161.5	226.5	M10x22
W 86L	170	70	50	45	113	119	35	-	38.3	10	60	35	65	8	38	179	244	M10x22
W 110L	191	77.5	55	45	133	134	42	-	45.3	12	75	42	80	10	45	200	280	M12x28

29.7 Registrazione coppia di slittamento

In fabbrica viene eseguita una pretaratura dello slittamento su un momento torcente coincidente col valore di coppia nominale Mn_2 [n_1=1400] del riduttore tipo VF o W.
Qui di seguito sono descritte le operazioni eseguite in fabbrica per realizzare la taratura della coppia di slittamento. Le stesse operazioni, a meno del passo (2), dovranno essere ripercorse quando si vuole impostare un valore di coppia diverso dall'originale.

1. La ghiera di registrazione viene avvitata fino a che le molle a tazza non sono sufficientemente caricate da non potere ruotare liberamente, se azionate manualmente.

29.7 Slip torque setting

A preliminary slip torque setting is conducted at the factory. Reference is made to torque rating Mn_2 [n_1=1400] of the captioned VF or W gear unit.
Here below the operations performed at the factor for the initial adjustment are listed.
Same steps, with the exception of step (2), must be followed when a different torque setting is required.

1. *Ring nut is tightened until spring washers are sufficiently loaded that manual rotation is hardly possible.*

29.7 Rutschmomenteinstellung

Eine Voreinstellung des Rutschmoments wird im werk durchgeführt.
Das voreingestellte Moment entspricht dem im Katalog angegebenen Nennmoment Mn_2 [n_1=1400] des Getriebes Typ VF oder W.
Nachfolgend werden die im Werk durchgeführten Operationen zur Einstellung des Rutschmoments beschrieben.
Die gleichen Schritte, mit Ausnahme des Schrittes Nr. 2, müssen wiederholt werden, wenn ein anderer Momentwert benötigt wird.

1. Die Verstellmutter so weit anziehen, daß sich die Tellerfedern nicht mehr von Hand drehen lassen.

29.7 Réglage du couple de glissement

Un pré-tarage du couple de glissement sur la base d'un moment de torsion coincidant avec la valeur du couple nominal Mn_2 [n_1=1400] du réducteur type VF o W est effectué en usine.
Ci-après sont décrites les operations effectuées en usine pour réaliser le tarage du couple de glissement. Les mêmes opérations, sauf l'étape 2, devront être effectuées si l'on veut obtenir un couple différent de celui prévu à l'origine.

1. *L'écrou de réglage est vissé jusqu'à ce que les rondelles élastiques soient suffisamment précontraintes et ne puissent plus tourner librment par une action manuelle.*

2. Per mezzo di un bulino vengono incise, in identica posizione angolare, due marcature di riferimento, sia sulla ghiera che sulla sporgenza d'albero lento.
   Questa posizione di riferimento costituirà il punto iniziale per il conteggio dei successivi giri della ghiera e la conseguente taratura di coppia.

2. By means of an engraver marks are made, in identical (angular) position, on both the ring nut and the hollow shaft.
Setting will then be referred to as the zero-point for the consequent slip torque adjustment, through turning of the ring nut.

2. Es werden 2 Bezugsmarkierungen unter dem gleichen Winkel sowohl auf der Verstellmutter als auch auf der Hohlwelle angebracht.
   Die hiermit gekennzeichnete Stellung ist der Ausgangspunkt für jede weitere Rutschmomenteinstellung durch die Verdrehung der Verstellmutter.

2. Au moyen d'un marqueur on réalise deux repères dans la même position angulaire, l'un sur l'écrou et l'autre sur la saillie de l'arbre lent. Cette position de référence constituera le point de départ pour le décompte des tours successifs de la bague et en conséquence le tarage du couple.

3. Infine la ghiera viene avvitata delle frazioni di giro corrispondenti al valore di coppia nominale Mn_2 del riduttore in oggetto. Il riferimento in questo caso è il diagramma sotto riportato, il quale sarà d'utilità anche per le eventuali nuove impostazioni che si dovessero rendere necessarie nel tempo.

3. Ring nut is then turned of the number of turns, or fraction of, corresponding to nominal torque rating Mn_2 of the captioned gear unit. In this case the diagram shown here under refers as to the proportion between number of turns and transmissible torque. Same diagram comes handy for customised torque adjustments, should these be required with time.

3. Die Verstellmutter wird soweit angezogen, bis das gewünschte Nennmoment Mn_2 des Getriebes erreicht ist. Sollte ein anderes Rutschmoment erforderlich sein, ist gemäß folgendem Diagramm (ausgehend von Punkt 2.) die Verstellmutter um den angegebenen Wert gegenüber der Hohlwelle zu drehen (¼ bis 2 Umdrehungen).

3. En final, la bague est vissée des fractions de tours correspondant à la valeur du couple nominal Mn_2 du réducteur concerné. La référence dans ce cas est le diagramme ci-dessous, lequel servira également pour les éventuels réglages qui s'avéreraient nécessaires dans le temps.

