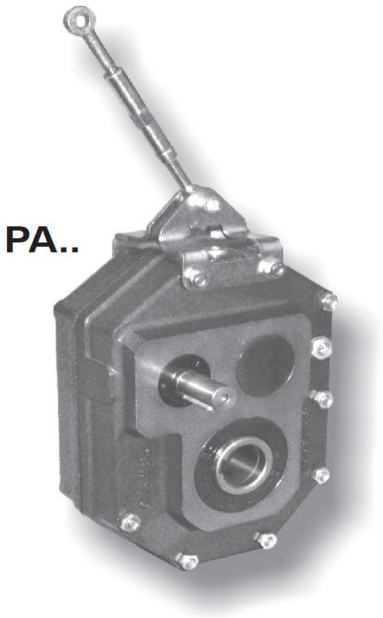
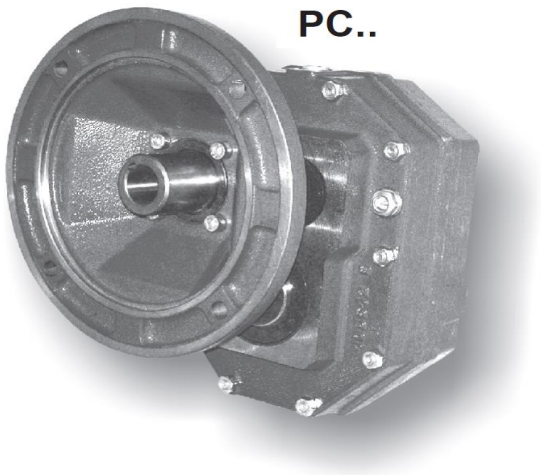
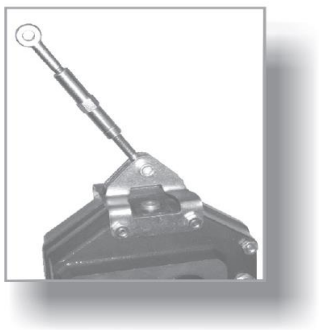
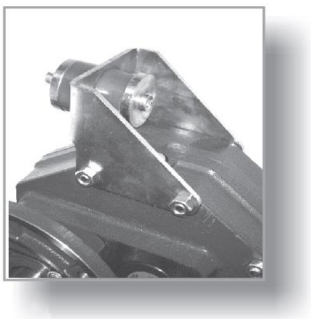
4.0 RIDUTTORI PENDOLARI P — *P SHAFT-MOUNTED GEARBOX* — AUFSTECKGETRIEBE P

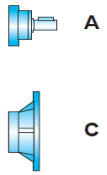
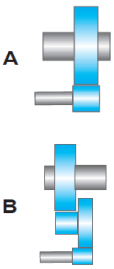
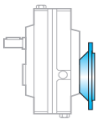


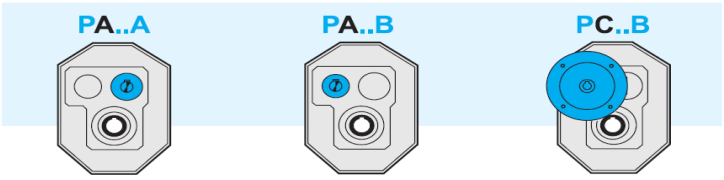






4.2 Designazione — *4.2 Designation* — 4.2 Bezeichnung

Macchina *Machine* Maschine	Tipo entrata *Input type* Antriebsart	Grandezza *Size* Größe	Diametro albero lento *Output shaft diameter* Durchmesser der Abtriebswelle	Rotismo *Gearing* Räderwerk	Rapporto rid. *Ratio* *Untersetzungsverhältnis*	Predisposiz. *Motor coupling* Motoranschluss	Posizione di montaggio *Mounting position* Baulage	Flangia uscita *Output flange* Abtriebsflansch	Antiritorno *Back-stop device* Rücklaufsperre
P	**A**	**100**	**45**	**B**	**10/1**	**P.A.M.**	**VA**	**FLD**	**CW**
Riduttore pendolare *Shaft mounted gearbox* Aufsteckgetriebe		63 80 100 125 160	D_2 25 ÷ 70		i_n = 5 ÷ 63	63 ÷ 200	P1 P2 P3 P4 VA VB	 FLD solo/*only*/nur **PC...B**	 AW  CW solo/*only*/nur **PA...B**



4.3 Velocità in entrata

Tutte le prestazioni dei riduttori sono calcolate in base ad una velocità in entrata di 1400 min^{-1}.
Tutti i riduttori ammettono velocità fino a 3000 min^{-1} anche se è consigliabile, dove l'applicazione lo permette, utilizzare valori inferiori a 1400 min^{-1}.
Nella tabella sottostante riportiamo i coefficienti correttivi della potenza in entrata P alle varie velocità riferita ad Fs = 1

4.3 Input speed

All calculations of gear unit performance are based on an input speed of 1400 min^{-1}. All gear units permit speed up to 3000 min^{-1}, nevertheless it is advisable to keep below 1400 min^{-1}, depending on application.
The table below reports input power P corrective coefficients at the various speeds, with Fs = 1.

4.3 Antriebsdrehzahl

Bei der Berechnung der Getriebeleistungen wurde eine Antriebsdrehzahl von 1400 min^{-1} zugrunde gelegt.
Bei allen Getrieben sind Antriebsdrehzahlen bis 3000 min^{-1} möglich; es ist jedoch ratsam, die Drehzahlen unter 1400 min^{-1} zu halten, wenn die Anwendung es ermöglicht.
In der folgenden Tabelle finden Sie die Korrekturkoeffizienten für die Antriebsleistung P bei den verschiedenen Drehzahlen, bezogen auf Fs = 1.

Tab. 1

n_1 [min^{-1}]	3000	2800	2200	1800	1400	900	700	500
Pc (kW)	P x 1.9	P x 1.8	P x 1.48	P x 1.24	P x 1	P x 0.7	P x 0.56	P x 0.42

4.4 Rendimento

Il valore del rendimento dei riduttori può essere stimato con sufficiente approssimazione in base al numero di riduzioni, trascurando le variazioni non significative attribuibili alle varie grandezze e rapporti.

4.4 Efficiency

The efficiency value of the gear units can be estimated sufficiently well on the basis of the number of reduction stages, ignoring non-significant variations which can be attributed to the various sizes and ratios.

4.4 Wirkungsgrad

Der Wirkungsgrad der Getriebe kann mit ausreichender Annäherung aufgrund der Anzahl der Untersetzungsstufen ermittelt werden; dabei können die unwesentlichen Veränderungen, die auf die verschiedenen Größen und Untersetzungsverhältnisse zurückzuführen sind, außer acht gelassen werden.

η	P...A	P...B
	0.97	0.95

4.5 Potenza termica

I valori delle potenze termiche, Pt0 (kW), relative alle diverse grandezze di riduttori pendolari sono riportati nella tabella seguente in funzione della velocità di rotazione in entrata del riduttore.

4.5 *Thermal power*

The following table shows the values of thermal power P_{t0} (kW) for each gearbox size on the basis of rotation speed at gearbox input.

4.5 Thermische Leistung

Die folgende Tabelle enthält die Werte P_{t0} der thermischen Leistung (kW) je nach Getriebegröße und abhängig von Drehzahlen am Getriebeantrieb.

Tab. 2

n_1 [min^{-1}]	P_{t0} [kW] - Potenza Termica / *Thermal power* / Thermische Leistung									
	PA63A	PA63B	PA80A	PA80B	PA100A	PA100B	PA125A	PA125B	PA160A	PA160B
1400	4.6	3.2	8.3	5.9	12.7	8.9	18.5	13.1	29.0	20.5
2800	3.9	2.8	7.0	5.0	10.8	7.6	15.7	11.1	24.7	17.4

4.6 Dati tecnici

4.6 *Technical data*

4.6 Technische Daten

P	n_1 = 1400			PC				PA	
	in	ir	n_2 rpm	T_2 Nm	P1 kW	FS'	IEC	T_{2M} Nm	P kW
63A	5	5.09	275					190	5.6
	6.3	6.10	230					180	4.5
	8	7.89	177					170	3.3
63B	10	10.35	135	121	1.8	1.9	63 71 80 90 (B5) 80 (B14)	230	3.4
	12.5	13.18	106	154	1.8	1.6		240	2.8
	16	15.79	89	184	1.8	1.4		250	2.4
	20	20.33	69	237	1.8	1.1		260	2.0
	25	25.88	54	252	1.5	1.1		270	1.6
	31.5	31.01	45	221	1.1	1.3		280	1.4
	40	40.10	35	234	0.9	1.2		270	1.0
80A	5	5.09	275					380	11.3
	6.3	6.10	230					360	8.9
	8	7.89	177					340	6.5
80B	10	10.20	137	264	4	1.7	71 80 90 100 112 (B5) 90 • (B14)	460	7.0
	12.5	12.98	108	337	4	1.4		480	5.7
	16	15.56	90	403	4	1.2		500	5.0
	20	20.36	69	520	4	1.0		520	4.0
	25	24.40	57	474	3	1.1		540	3.4
	31.5	31.05	45	443	2.2	1.3		560	2.8
	40	37.21	38	530	2.2	1.0		540	2.2
	50	48.12	29	468	1.5	1.1		520	1.7
	63	62.23	22	444	1.1	1.1		500	1.2
100A	5	5.09	275					760	22.6
	6.3	6.10	230					720	17.8
	8	7.89	177					680	13.0
100B	10	10.20	137	608	9.2	1.5	80 90 100 112 132 (B5)	920	13.9
	12.5	12.98	108	774	9.2	1.2		960	11.4
	16	15.56	90	927	9.2	1.1		1000	9.9
	20	20.36	69	990	7.5	1.1		1040	7.9
	25	24.40	57	870	5.5	1.2		1080	6.8
	31.5	31.05	45	1107	5.5	1.0		1120	5.6
	40	37.21	38	965	4	1.1		1080	4.5
	50	48.12	29	936	3	1.1		1040	3.3
	63	62.23	22	887	2.2	1.1		1000	2.5

P	n_1 = 1400			PC				PA	
	in	ir	n_2 rpm	T_2 Nm	P1 kW	FS'	IEC	T_{2M} Nm	P kW
125A	5	5.09	275					1520	45.1
	6.3	6.10	230					1440	35.7
	8	7.89	177					1360	26.1
125B	10	10.20	137	1454	22	1.3	80 90 100 112 132 160 180 (B5)	1840	27.8
	12.5	12.98	108	1851	22	1.0		1920	22.8
	16	15.56	90	1865	18.5	1.1		2000	19.8
	18*	17.34	81	2072	18.5	1.1		2200	19.5
	20	20.36	69	1979	15	1.1		2080	15.8
	25	24.40	57	1739	11	1.2		2160	13.7
	31.5	31.05	45	2214	11	1.0		2240	11.1
	35*	34.62	40	2087	9.2	1.1		2350	10.5
	40	37.21	38	2160	9.2	1.0		2160	9.2
	45*	41.48	34	2001	7.5	1.1		2280	8.5
	50	48.12	29	1715	5.5	1.2		2080	6.7
	56*	53.64	26	1396	4	1.2		1740	5.0
	63	62.23	22	1613	4	1.2		2000	5.0
160A	5	5.09	275					3040	90.2
160B	10	10.20	137	1983	30	1.9	100 112 132 160 180 200 (B5)	3680	55.7
	12.5	12.98	108	2524	30	1.5		3840	45.6
	16	15.56	90	3024	30	1.3		4000	39.7
	18*	17.34	81	3360	30	1.3		4350	39.0
	20	20.36	69	3959	30	1.0		4160	31.5
	25	24.40	57	3479	22	1.2		4320	27.3
	31.5	31.05	45	4427	22	1.0		4480	22.3
	35*	34.62	40	4196	18.5	1.1		4480	20.0
	40	37.21	38	3617	15	1.2		4320	17.9
	45*	41.48	34	4003	15	1.1		4430	16.5
	50	48.12	29	3430	11	1.2		4160	13.3
	56*	53.64	26	3210	9.2	1..1		3450	9.9
	63	62.23	22	3710	9.2	1.1		4000	9.9

• Flange quadrate / *Square flanges* / Viereckige Flansche

* Rapporti speciali / *Special ratios* / Sonderverhältnisse

Verifica termica necessaria / *Thermal rating needed* / Thermische - Prüfung erforderlich

4.7 **Momenti d'inerzia** [Kg.cm²]
(riferiti all'albero veloce in entrata)

4.7 ***Moments of inertia*** *[Kg.cm²]*
(referred to input shaft)

4.7 **Trägheitsmoment** [Kg.cm²]
(bez. Antriebswelle)

63A	i_n	PA
	5	1.09
	6.3	0.86
	8	0.62

63B	i_n	PA	PC IEC B5			
			63	71	80	90
	10	0.79	0.87	1.01	1.38	1.43
	12.5	0.73	0.81	0.95	1.33	1.38
	16	0.70	0.77	0.92	1.30	1.35
	20	0.33	0.40	0.54	0.92	0.97
	25	0.31	0.39	0.53	0.91	0.95
	31.5	0.30	0.38	0.52	0.90	0.95
	40	0.30	0.37	0.51	0.89	0.94

80A	i_n	PA
	5	3.45
	6.3	2.60
	8	1.87

80B	i_n	PA	PC IEC B5			
			71	80	90	100-112
	10	2.94	3.40	3.57	3.95	4.79
	12.5	2.77	3.23	3.40	3.77	4.61
	16	2.65	3.11	3.28	3.66	4.49
	20	1.22	1.68	1.85	2.23	3.07
	25	0.95	1.45	1.62	1.99	2.83
	31.5	0.91	1.42	1.59	1.96	2.80
	40	0.89	1.39	1.56	1.94	2.78
	50	0.88	1.38	1.55	1.93	2.76
	63	0.63	1.16	1.33	1.71	2.55

100A	i_n	PA
	5	10.09
	6.3	7.40
	8	5.26

100B	i_n	PA	PC IEC B5			
			80	90	100-112	132
	10	9.58	11.01	10.88	11.83	14.97
	12.5	8.72	10.15	10.02	10.98	14.12
	16	8.32	9.75	9.62	10.57	13.71
	20	3.91	5.08	4.95	5.90	9.04
	25	3.04	4.27	4.14	5.10	8.24
	31.5	2.89	4.12	3.99	4.95	8.09
	40	2.82	4.05	3.92	4.88	8.02
	50	2.77	4.00	3.87	4.83	7.97
	63	1.95	3.28	3.15	4.11	7.24

125A	i_n	PA
	5	28.98
	6.3	22.22
	8	15.91

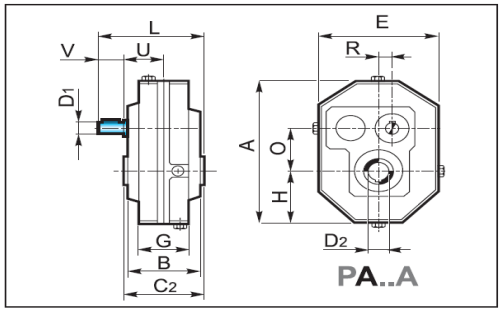
125B	i_n	PA	PC IEC B5					
			80	90	100-112	132	160	180
	10	28.02	29.78	29.65	29.79	32.99	37.41	40.43
	12.5	25.22	26.98	26.85	26.98	30.18	34.61	37.63
	16	24.17	25.93	25.80	25.94	29.14	33.56	36.58
	18*	23.50	25.26	25.13	25.27	28.47	32.89	35.91
	20	11.08	12.52	12.39	12.53	15.73	20.15	23.17
	25	8.65	10.19	10.06	10.20	13.40	17.83	20.84
	31.5	8.16	9.70	9.57	9.71	12.91	17.34	20.35
	35*	9.95	11.39	11.26	11.40	14.60	19.02	22.04
	40	7.98	9.52	9.39	9.53	12.73	17.15	20.17
	45*	7.86	9.40	9.27	9.41	12.61	17.04	20.05
	50	7.83	9.37	9.24	9.38	12.58	17.01	20.02
	56*	5.44	7.30	7.17	7.31	10.51	14.93	17.95
	63	5.42	7.28	7.16	7.29	10.49	14.92	17.94

160A	i_n	PA
	5	93.17

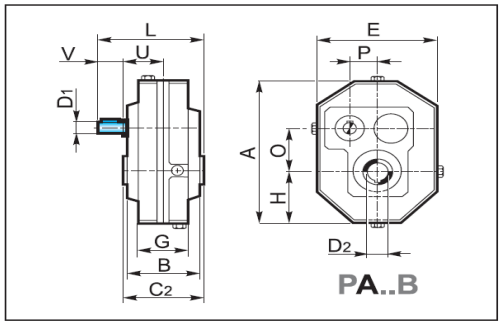
160B	i_n	PA	PC IEC B5				
			110-112	132	160	180	200
	10	87.64	91.32	97.00	96.00	98.91	109.30
	12.5	78.05	81.74	87.42	86.42	89.33	99.72
	16	75.36	79.04	84.72	83.72	86.63	97.02
	18*	73.88	77.56	83.24	82.24	85.15	95.54
	20	34.51	37.42	43.10	42.10	45.01	55.40
	25	27.20	30.18	35.86	34.86	37.77	48.16
	31.5	25.53	28.51	34.19	33.19	36.10	46.49
	35*	31.06	33.96	39.65	38.65	41.56	51.94
	40	25.06	28.03	33.72	32.72	35.63	46.01
	45*	24.80	27.78	33.46	32.46	35.37	45.76
	50	24.52	27.50	33.18	32.18	35.09	45.48
	56*	17.24	21.15	26.83	25.83	28.74	39.13
	63	17.07	20.98	26.67	25.66	28.57	38.96

4.8 Dimensioni — *4.8 Dimensions* — 4.8 Abmessungen

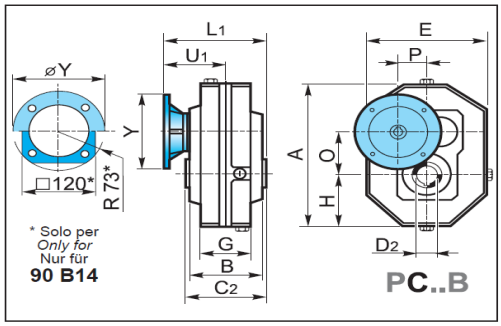
	PA...A - PA...B - PC...B												
	63			80			100		125		160		
A	194			266			331		405		510		
B	97			120			143		164		196		
C2	101			130			155		180		220		
$D2_{H7}$	25	28	30	30	35	38	40	45	50	55	60	65	70
E	140			196			242		293		367		
G	68			82			100		118		146		
H	70			98			121		146.5		183.5		
O	61.5			79.5			99.5		123.5		157		
P	30.3			43.9			59.6		72.4		85.1		
R	17.7			20.1			22.4		29.6		41.9		



	PA...A				
$D1_{h6}$	19	24	28	38	48
V	40	50	60	80	80
L	157	194	229	281	342
U	66	79	91	111	152
kg	10	16	28	52	108
	PA...B				
$D1_{h6}$	14	19	24	28	38
V	30	40	50	60	80
L	138	171	206	241	301.5
U	51.5	66	78.5	91	111.5
kg	12	18	34	58	120



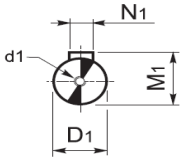
	PC...B							
	63				80			
IEC	63 B5	71 B5	80/90 B5	80 B14	71 B5	80/90 B5	*90 B14	100/112 B5
Y	140	160	200	120	160	200	120 / R 73	250
L1	141	148	168	168	173	193	193	203
U1	90.5	97.5	117.5	117.5	108	128	128	138



*** Flange quadrate / *Square flanges* / Viereckige Flansche**

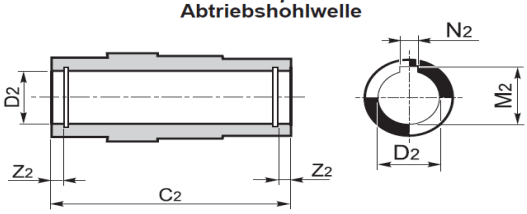
	PC...B										
	100			125				160			
IEC	80/90 B5	100/112 B5	132 B5	80/90 B5	100/112 B5	132 B5	160/180 B5	100/112 B5	132 B5	160/180 B5	200 B5
Y	200	250	300	200	250	300	350	250	300	350	400
L1	221	231	253	244	254	276	306	298	318	348	348
U1	143.5	153.5	175.5	154	164	186	216	188	208	238	238

Albero entrata
Input shaft
Antriebswelle



	PA...A				
	63	80	100	125	160
$D1_{h6}$	19	24	28	38	48
d1	M8	M8	M8	M10	M12
M1	21.5	27	31	41	51.5
N1	6	8	8	10	14
	PA...B				
$D1_{h6}$	14	19	24	28	38
d1	M6	M8	M8	M8	M10
M1	16	21.5	27	31	41
N1	5	6	8	8	10

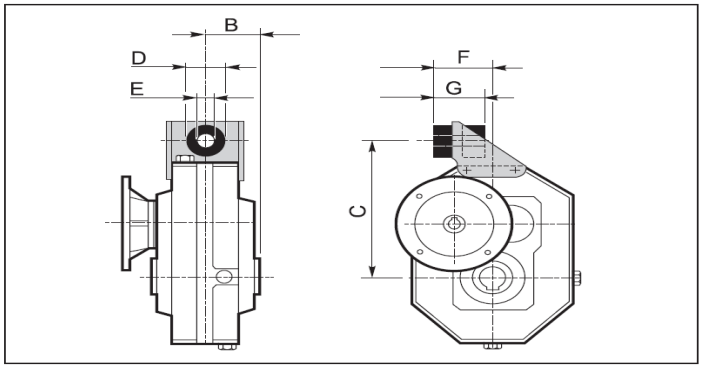
Albero uscita cavo
Hollow output shaft
Abtriebshohlwelle



	PA...A - PA...B - PC...B												
	63			80			100		125		160		
C2	101			130			155		180		220		
$D2_{H7}$	25	28	30	30	35	38	40	45	50	55	60	65	70
M2	28.3	31.3	33.3	33.3	38.3	41.3	43.3	48.8	54.3	59.3	64.4	69.4	79.4
N2	8	8	8	8	10	10	12	14	14	16	18	18	20
Z2	7.3	7.3	7.3	8.5	8.5	8.5	10.8	10.8	12	12	15.5	15.5	15.5

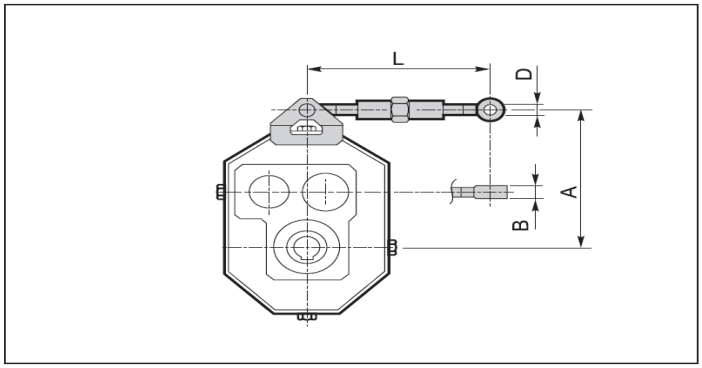
4.9 Accessori — *4.9 Accessories* — 4.9 Zubehör

Braccio di reazione — *Torque arm* — Drehmomentstütze



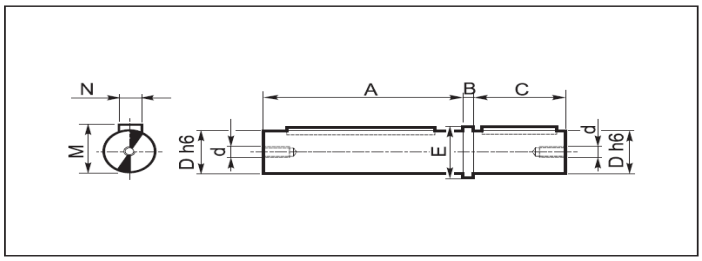
	PC...B				
	63	**80**	**100**	**125**	**160**
B	50.5	65	77.5	90	110
C	150	200	250	308	385
D	40	40	60	60	80
E	12.5	12.5	21	21	25
F	64.5	78	101	116	144
G	53	55	85	86	112

Tenditore — *Tensioner* — Spannvorrichtung



	PA..A - PA..B				
	63	**80**	**100**	**125**	**160**
A	151	199	254.5	314	393
B	8	10	12	14	16
D	8	10	12	14	16
Lmax.	264	264	266	270	272
Lmin.	206	204	218	214	222

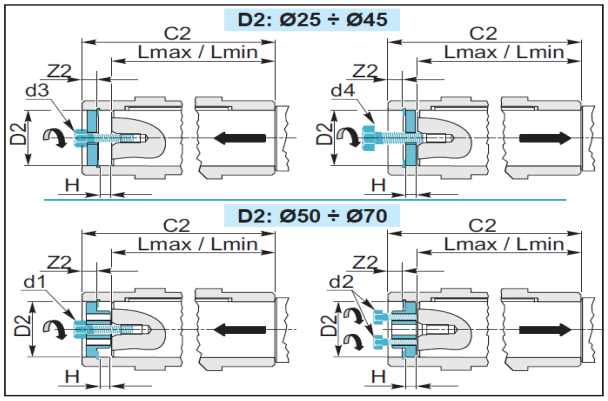
Albero lento — *Output shaft* — Abtriebswelle



	PA...A - PA...B - PC...B				
	63	**80**	**100**	**125**	**160**
A	100	129	154	179	219
B	5	6	8	10	12
C	50	60	80	100	125
D $_{h6}$	25	35	45	55	70
d	M8	M8	M10	M10	M12
E	32	43	53	65	80
M	28	38	48.5	59	74.5
N	8	10	14	16	20

Materiale albero lento: **C45** - *Output shaft material:* ***C45*** - Material der Abtriebswelle: **C45**

Kit fissaggio e smontaggio riduttori con albero lento cavo — Kit for the mounting and dismounting of the gearboxes with hollow output shaft — Kit für Montage und Ausbau der Getriebe mit Abtriebshohlwelle

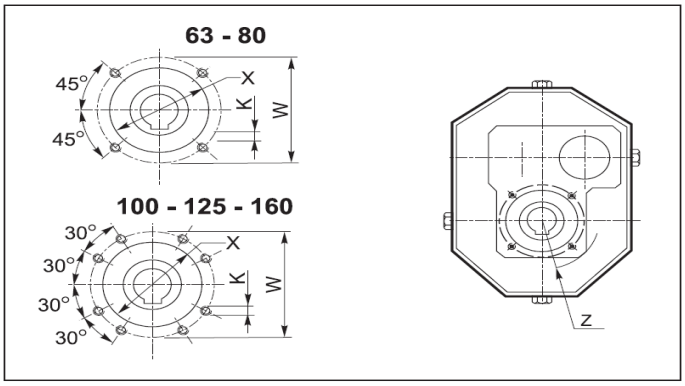


	P														
	63			**80**			**100**		**125**		**160**		
C2	101			130			155		180		220		
D2	25	28	30	30	35	38	40	45	50	55	60	65	70
H	7			7	6.5		8		9		12	11.5	12
d1	—			—			—		M10		M12		
d2	—			—			—		M8		M10		
d3	M8			M8			M8		—		—		
d4	M12			M12			M12		—		—		
Z2	7.2			8.7	8.4		10.7		11.9		15.9	15.4	
Lmax	84			112			133		156		189		
Lmin	79			107			128		149		182		

Predisposizione per flangia uscita

Coupling for output flange

Auslegung für Abtriebsflansch

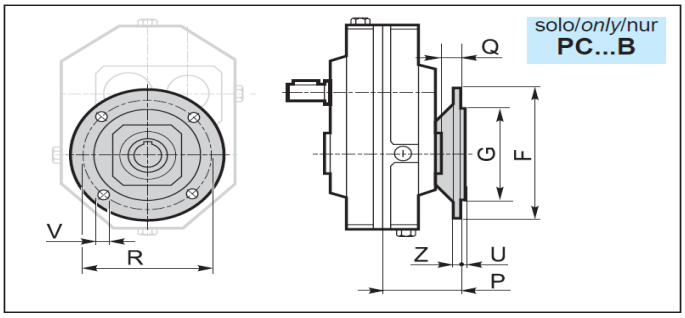


	PA...A - PA...B - PC...B				
	63	80	100	125	160
K	M6 x 12	M10 x 12	M8 x 12	M10 x 15	M12 x 20
W	80	105	122	145	186
Z	50	64.5	72.5	90	110
X	62	80	100	120	136

Flangia uscita

Output flange

Abtriebsflansch



	PC...B				
	63	80	100	125	160
F	160	200	250	300	350
G f7	110	130	180	230	250
R	130	165	215	265	300
P	86.5	98	110	135	177.5
Q	36	33	32.5	45	67.5
U	3	4	4	4	5
V	9	12	14	14	19
Z	10	10	12	15	16

Dispositivo antiritorno

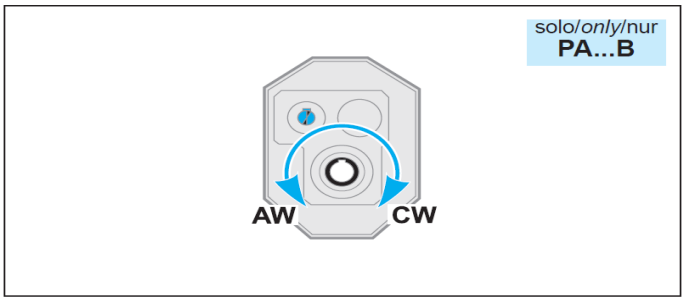
Backstop device

Rücklaufsperre

Il riduttore pendolare presenta valori di rendimento statico (e dinamico) molto elevati: per questo motivo non è garantita spontaneamente l'irreversibilità statica.
L'irreversibilità statica si realizza quando, a riduttore fermo, l'applicazione di un carico all'albero lento non pone in rotazione l'asse entrata. Pertanto, per garantire l'irreversibilità del moto, a riduttore fermo, occorre predisporre il riduttore stesso con un opportuno dispositivo antiritorno, fornibile a richiesta solo nel caso di riduttore a 2 stadi di riduzione con entrata alberata (PA..B escluso PA 63B). Tale dispositivo permette la rotazione dell'albero lento solo nel senso desiderato, da specificare all'atto dell'ordine.

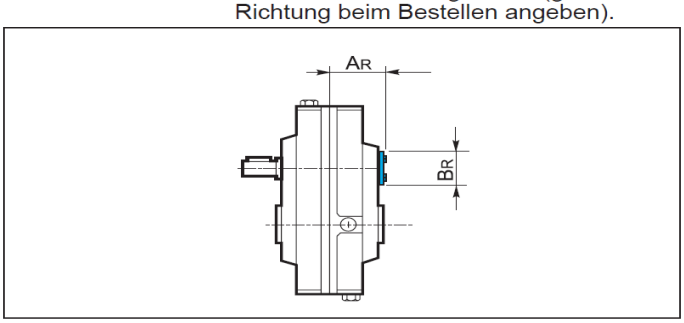
Shaft-mounted gearboxes feature quite high values of static (and dynamic) efficiency: for this reason spontaneous static irreversibility is not guaranteed. Static irreversibility, with motionless gearbox, occurs when the application of a load on the output shaft does not cause rotation of the input axis. In order to guarantee motion irreversibility, with motionless gearbox, it is necessary to fit a backstop device, which is available on request only for gearbox with 2 reduction stages input shaft version (PA..B, PA 63B excluded).
The backstop device enables rotation of the output shaft only in the required direction, which is to be specified when ordering.

Aufsteckgetriebe haben sehr hohen statischen (und dynamischen) Wirkungsgrad: deshalb wird keine spontane statische Irreversibilität garantiert. Statische Irreversibilität bei stillstehenden Getriebe hat man, wenn die Applikation mit einer Last auf die Abtriebswelle, keine Drehung der Antriebswelle verursacht. Um Irreversibilität der Bewegung bei stillstehendem Getriebe zu sichern, sollte eine Rücklaufsperre montiert werden. Die Rücklaufsperre wird auf Wunsch nur für Getriebe mit 2 Untersetzungsstufen und Welle am Antrieb (PA...B mit Ausnahme von PA 63B) geliefert. Die Rücklaufsperre ermöglicht, dass die Abtriebswelle nur in der gewünschten Richtung dreht (gewünschte Richtung beim Bestellen angeben).



CW Rotazione oraria
Clockwise rotation
Im Uhrzeigersinn

AW Rotazione antioraria
Anti-clockwise rotation
Gegen den Uhrzeigersinn



	PA 80B	PA 100B	PA 125B	PA 160B
AR	70	83.5	95	112
BR	60	65	85	95

4.12 Carichi radiali e assiali (N)

Le trasmissioni effettuate tramite pignoni per catena, ruote dentate o pulegge generano delle forze radiali (F_R) sugli alberi dei riduttori. L'entità di tali forze può essere calcolata con la formula:

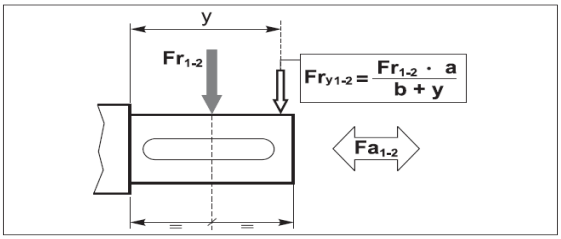
$$F_R = \frac{K_R \cdot T}{d} \text{ [N]}$$

dove:
T = Momento torcente [Nm]
d = Diametro pignone o puleggia [mm]

K_R = 2000 per pignone per catena
= 2500 per ruote dentate
= 3000 per puleggia con cinghie a V

I valori dei carichi radiali e assiali generati dall'applicazione debbono essere sempre minori o uguali a quelli ammissibili indicati nelle tabelle.

$$F_R \geq Fr_{1\text{-}2}$$



Se il carico radiale sull'albero non è applicato a metà della sporgenza dell'albero, il valore del carico ammissibile deve essere valutato utilizzando la formula che si riferisce ad $Fry_{1\text{-}2}$, in cui i valori di a, b e $Fr_{1\text{-}2}$ sono riportati nelle tabelle relative ai carichi radiali.

4.12 Radial and axial loads (N)

Transmissions implemented by means of chain pinions, wheels or pulleys generate radial forces (F_R) on the gear unit shafts. The entity of these forces may be calculated using the following formula:

where:
T = torque [Nm]
d = pinion or pulley diameter [mm]

K_R = 2000 for chain pinion
=2500 for wheel
=3000 for V-belt pulley

The values of the radial and axial loads generated by the application must always be lower than or equal to the admissible values reported in the tables.

Should the radial load affect the shaft not at the half-way point of its projection but at a different point, the value of the admissible load has to be calculated using the $Fry_{1\text{-}2}$ formula: a, b and $Fr_{1\text{-}2}$ values are reported in the radial load tables.

4.12 Radial- und Axialbelastungen (N)

Antriebe mit Kettenritzel, Zahnrädern oder Riemenscheiben erzeugen radiale Kräfte (F_R) an den Wellen der Untersetzungsgetriebe. Die Größe dieser Kraft kann nach folgender Formel berechnet werden:

dabei ist:
T = Drehmoment [Nm]
d = Kettenritzel- bzw. Riemenscheiben durchmesser [mm]
K_R = 2000 bei Kettenritzel
= 2500 bei Zahnrad
= 3000 bei Riemenscheibe mit Keilriemen

Die Werte der Radial- und Axialbelastungen, die durch die Anwendung hervorgerufen werden, dürfen nicht über den in den Tabellen angegebenen zulässigen Werten liegen.

Falls die Radialbelastungen bei der halben Länge der herausragenden Welle wirken, soll die zulässige Belastung mit der Formel bezüglich $Fry_{1\text{-}2}$ kalkuliert werden: a, b und $Fr_{1\text{-}2}$ Werte sind aus der Tabelle der Radialbelastungen zu entnehmen.

	P 63B		P 63A P 80B		P 80A P 100B		P 100A P 125B		P 125A P 160B	
	ALBERO ENTRATA / *INPUT SHAFT* / ANTRIEBSWELLE (n_1 = 1400 min^{-1})									
	a=107	b=92	a=118.25	b=98.25	a=141.25	b=116.25	a=165.25	b=135.25	a=203.25	b=163.25
i_n	Fr_1	Fa_1	Fr_1	Fa_1	Fr_1	Fa_1	Fr_1	Fa_1	Fr_1	Fa_1
Tutti *All* Alle	315	60	400	80	630	125	1000	200	1600	320

	P 63B		P 80B		P 100B		P 125B		P 160B	
	ALBERO USCITA / *OUTPUT SHAFT* / ABTRIEBSWELLE (n_1 = 1400 min^{-1})									
	a=111	b=81	a=139	b=103	a=170.5	b=122.5	a=204.5	b=144.5	a=251.5	b=177
i_n	Fr_2	Fa_2	Fr_2	Fa_2	Fr_2	Fa_2	Fr_2	Fa_2	Fr_2	Fa_2
10	1140	230	2800	560	3250	650	5150	1030	9580	1910
12.5	1340	270	3100	620	3700	740	5830	1160	10680	2130
16	1480	295	3450	690	4220	840	6590	1310	11925	2385
18*	—	—	—	—	—	—	7010	1390	12610	2520
20	1910	380	3820	765	4780	950	7430	1480	13290	2660
25	1930	385	4200	840	5350	1070	8280	1650	14680	2930
31.5	2180	435	4630	925	6160	1230	9245	1850	16250	3250
35*	—	—	—	—	—	—	9770	1950	17100	3420
40	2400	480	5100	1020	6700	1340	10300	2060	17970	3590
45*	—	—	—	—	—	—	10840	2160	18840	3760
50	—	—	5580	1115	7430	1480	11380	2270	19720	3940
56*	—	—	—	—	—	—	11840	2360	20480	4090
63	—	—	6000	1200	8060	1600	12310	2460	21250	4250

* **Rapporti speciali / *Special ratios* / Sonderverhältnisse**