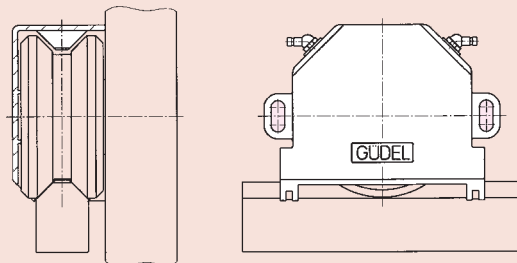


BAUGRÖSSE 20

TAILLE 20
SIZE 20

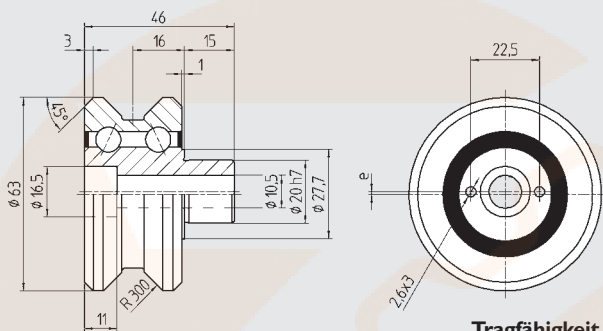
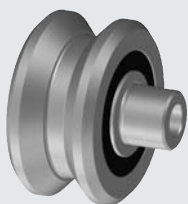


Konstruktionsabmasse
Cotes de montage
Mounting dimensions

Führungsrolle

Galet de guidage

Roller for vee bars



DIN 912 8.8 M_A
M10x50 48 Nm

Tragfähigkeit / Capacité de charge / Load carrying capacity

Type	Part No.	Excenter	G _a (µm)	Mat.	m (kg)	C _{0w} (N)	C _w ^① (N)	C _w ^② (N)	n _{max} (min ⁻¹)	
FR 20	900 720	1 mm	+6/+23	100Cr6	1.3505	0,50	9 500	10 200	2 200	7 000
FR 20 A	900 721	1 mm	-3/+5	100Cr6	1.3505	0,50	8 600	9 000	2 000	7 000
FR 20 Z	900 722	0 mm	+6/+23	100Cr6	1.3505	0,50	9 500	10 200	2 200	7 000
FR 20 ZA	900 724	0 mm	-3/+5	100Cr6	1.3505	0,50	8 600	9 000	2 000	7 000
FR 20 R	900 723	1 mm	+6/+23	X46Cr13	1.4034	0,50	7 100	7 500	1 650	7 000

G_a Axiale Lagerluft, jeu axial, internal axial clearance

Weg, Chemin parcouru, Distance: ① 10⁶m ② 10⁸m

Befestigungsflansch

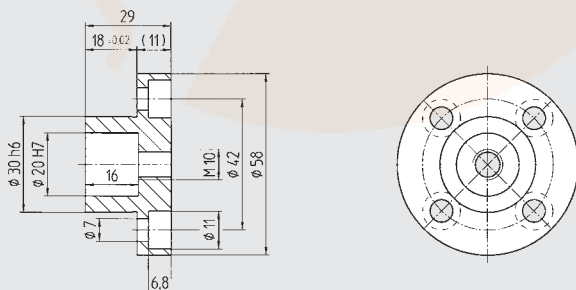
Bride de fixation

Mounting flange

brüniert

noirçi

black oxide



DIN 912 8.8 M_A
M6x16 9,9 Nm

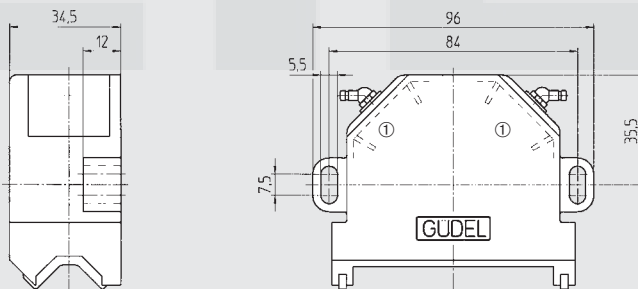
Type	Part No.	Mat.	m (kg)
SP 20	902 021	Ck45	1.1191 0,25
SPE 20	902 042	Ck45	1.1191 0,18

Seite / Page 01.52

Abstreifer-Schmiereinheit

Racleur graisseur

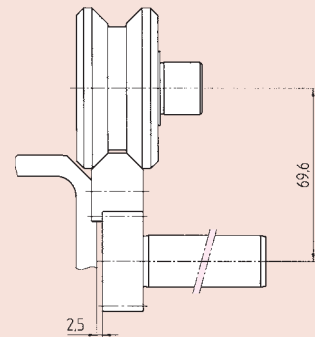
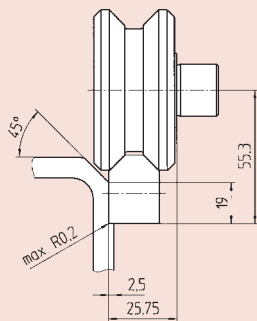
Wiper and lubrication unit



DIN 912 8.8 M_A
M5x20 5 Nm

① Ölgetränkter Filz
Feutre imbibé d'huile
Oil soaked felt inserts

Type	Part No.	Mat.	m (kg)
RA 20	900 042	PA-6/POM	0,04

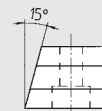
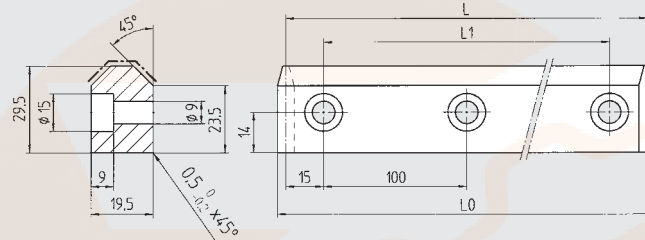
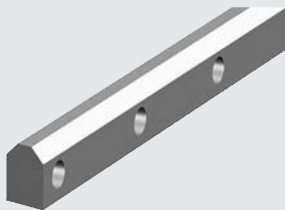


Konstruktionsabmasse
Cotes de montage
Mounting dimensions

Führungsschiene

Rail de guidage

Guideway vee bar



Type	Part No.	L	L ₀	L ₁	Mat.	m (kg)
FS 200	900 320	030	035.23	000	58CrMoV4 1.7792	4,00
	900 321	630	635.23	600	58CrMoV4 1.7792	2,50
	900 322	330	335.23	300	58CrMoV4 1.7792	1,30
FS 200 R	900 992	630	635.23	600	X42Cr13 1.2083	2,40



DIN 912 8.8 M_A
M8x20 24 Nm

Führungszahnstange

Rail crémaillère de guidage

Guideway vee rack

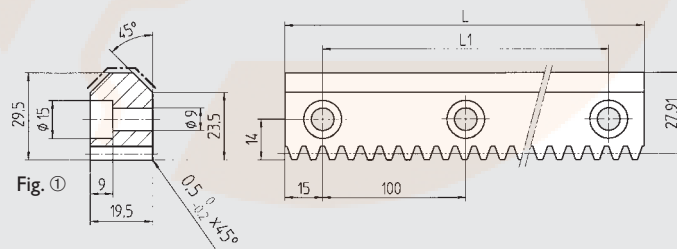
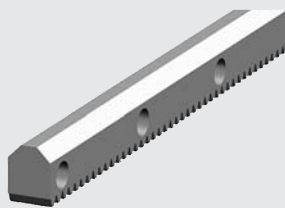


Fig. ②

Type	Part No.	L	L ₁	Module p	Fig.	Mat.	m (kg)
FZ 20	900 120	030	000	1.5915 5,0	①	58CrMoV4 1.7792	3,90
	900 121	630	600	1.5915 5,0	①	58CrMoV4 1.7792	2,40
	900 122	330	300	1.5915 5,0	①	58CrMoV4 1.7792	1,25
FZ 20 G	900 070	030	000	1.5915 5,0	②	58CrMoV4 1.7792	3,90
	900 071	630	600	1.5915 5,0	②	58CrMoV4 1.7792	2,40
	900 072	330	300	1.5915 5,0	②	58CrMoV4 1.7792	1,25
FZ 20 R	900 997	630	600	1.5915 5,0	②	X42Cr13 1.2083	2,40

weich, soft
Quality
7h25

hart, trempé
Quality
6h23



Einbau
Montage / Assembly
Seite / Page 01.71

Antriebsritzel

Pignon

Drive pinion

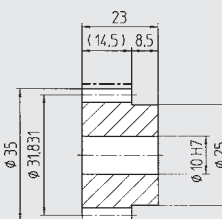
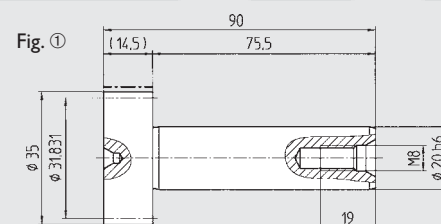
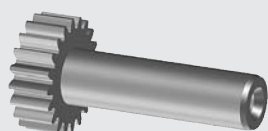


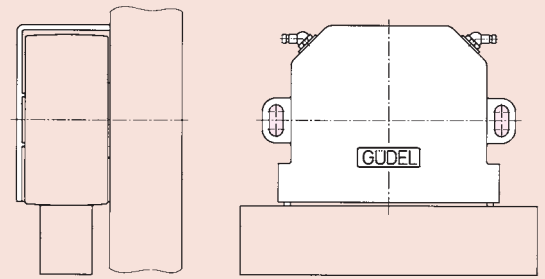
Fig. ②

Type	Part No.	z	Module p	Fig.	Mat.	m (kg)
WR 20	900 920	20	1.5915 5,0	①	16MnCr5 1.7131	0,30
MR 5	154 050	20	1.5915 5,0	②	16MnCr5 1.7131	0,10

hart, trempé
Quality
6f24

BAUGRÖSSE 20

TAILLE 20
SIZE 20

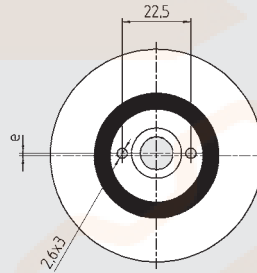
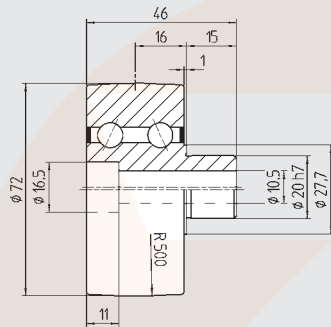


Konstruktionsabmasse
Cotes de montage
Mounting dimensions

Laufrolle

Galet de roulement

Plain roller



DIN 912 8.8 M_A
M10x50 48 Nm

Tragfähigkeit / Capacité de charge / Load carrying capacity

Type	Part No.	Excenter	G _a (µm)	Mat.	m (kg)	C _w (N)	C _w ^① (N)	C _w ^② (N)	n _{max} (min ⁻¹)	
LR 20	900 820	1 mm	+6/+23	100Cr6	1.3505	0,70	9 500	10 200	2 200	7 000
LR 20 A	900 821	1 mm	-3/+5	100Cr6	1.3505	0,70	8 600	9 000	2 000	7 000
LR 20 Z	900 822	0 mm	+6/+23	100Cr6	1.3505	0,70	9 500	10 200	2 200	7 000
LR 20 R	900 823	1 mm	+6/+23	X46Cr13	1.4034	0,70	7 100	7 500	1 650	7 000

G_a Axiale Lagerluft, jeu axial, internal axial clearance

Weg, Chemin parcouru, Distance: ① 10⁶m ② 10⁸m

Befestigungsflansch

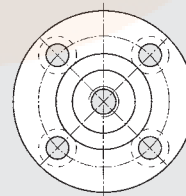
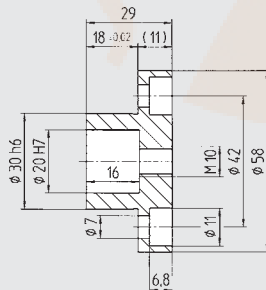
Bride de fixation

Mounting flange

brüniert

noirçi

black oxide



DIN 912 8.8 M_A
M6x16 9,9 Nm

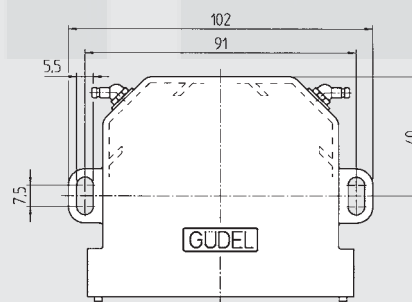
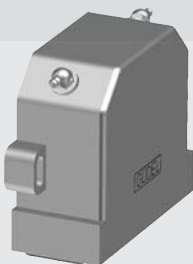
Type	Part No.	Mat.	m (kg)
SP 20	902 021	Ck45	1.1191 0,25
SPE 20	902 042	Ck45	1.1191 0,18

Seite / Page 01.52

Abstreifer-Schmiereinheit

Racleur graisseur

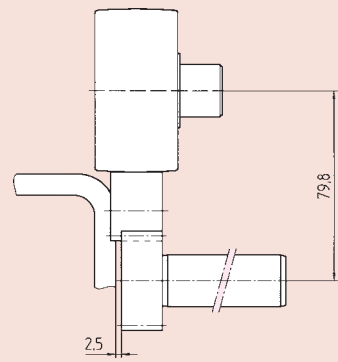
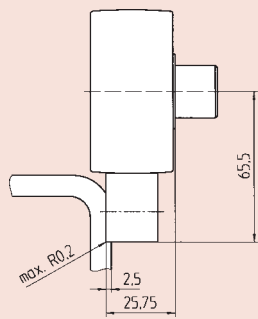
Wiper and lubrication unit



DIN 912 8.8 M_A
M5x20 5 Nm

① Ölgetränkter Filz
Feutre imbibé d'huile
Oil soaked felt inserts

Type	Part No.	Mat.	m (kg)
RAL 20	900 047	PA-6/POM	0,04

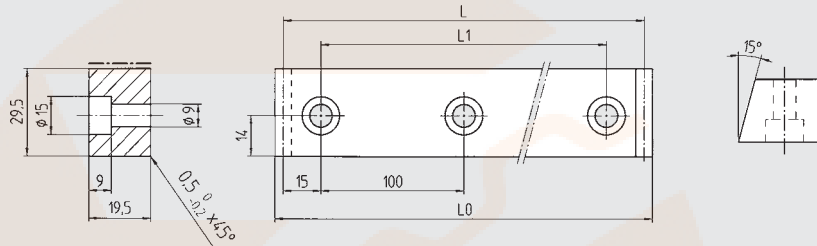
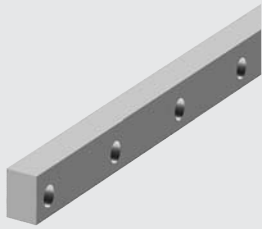


Konstruktionsabmasse
Cotes de montage
Mounting dimensions

Laufschiene

Rail de roulement

Guideway flat rail



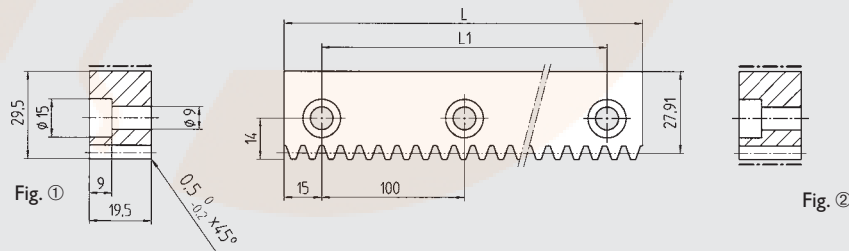
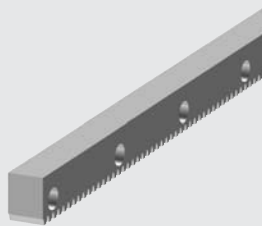
Type	Part No.	L	L ₀	L ₁	Mat.	m (kg)
LS 200	900 620	1 030	1 035.23	1 000	58CrMoV4 1.7792	4,40
	900 621	630	635.23	600	58CrMoV4 1.7792	2,70
	900 622	330	335.23	300	58CrMoV4 1.7792	1,50
LS 200 R	901 002	630	635.23	600	X42Cr13 1.2083	2,70

DIN 912 8.8 M_A
M8x20 24 Nm

Laufzahnstange

Rail crémaillère de roulement

Guideway rack



Type	Part No.	L	L ₁	Module	p	Fig.	Mat.	m (kg)
LZ 20	900 420	1 030	1 000	1.5915	5,0	①	58CrMoV4 1.7792	4,20
	900 421	630	600	1.5915	5,0	①	58CrMoV4 1.7792	2,60
	900 422	330	300	1.5915	5,0	①	58CrMoV4 1.7792	1,35
LZ 20 G	900 073	1 030	1 000	1.5915	5,0	②	58CrMoV4 1.7792	4,20
	900 074	330	300	1.5915	5,0	②	58CrMoV4 1.7792	1,35
LZ 20 R	901 007	630	600	1.5915	5,0	②	X42Cr13 1.2083	2,60

weich, soft
Quality
7h25

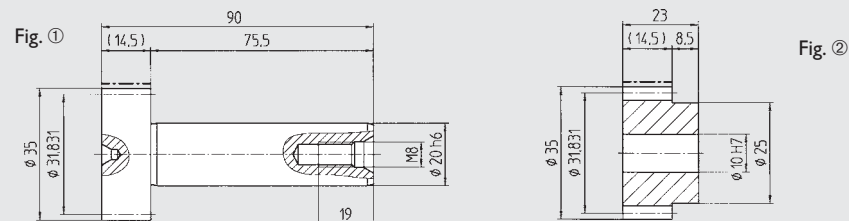
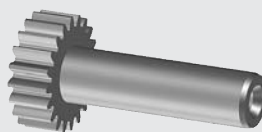
hart, trempé
Quality
6h23

Einbau
Montage / Assembly
Seite / Page 01.71

Antriebsritzel

Pignon

Drive pinion



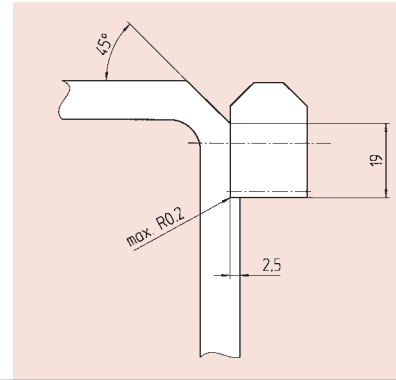
Type	Part No.	z	Module	p	Fig.	Mat.	m (kg)
WR 20	900 920	20	1.5915	5,0	①	16MnCr5 1.7131	0,30
MR 5	154 050	20	1.5915	5,0	②	16MnCr5 1.7131	0,10

hart, trempé
Quality
6f24



BAUGRÖSSE 20

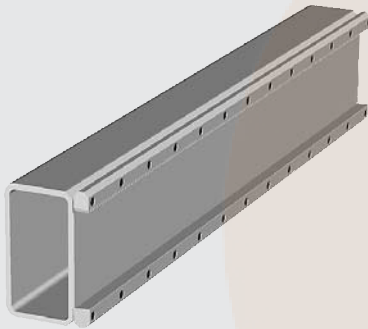
TAILLE 20
SIZE 20



Konstruktionsabmasse
Cotes de montage
Mounting dimensions

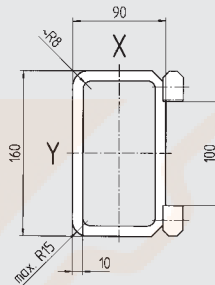
Trägerprofil in Stahl mit Führungen

Die Profile sind sandgestrahlt, grundiert und bearbeitet zur Aufnahme der Schienen. Die Führungen werden gemäss Bestellbeispiel spezifiziert. Die Portale werden mit montierten Schienen geliefert. Auf Anfrage werden sie mit 2-Komponentenfarbe lackiert.



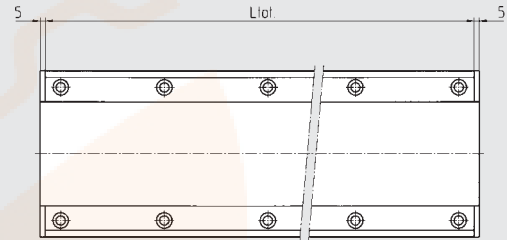
Poutre en acier avec rails

Poutre sablée avec peinture d'après. Usinée pour réception des rails. Livrée avec ses rails montés selon exemple de commande. Sur demande peinture en 2 composants.



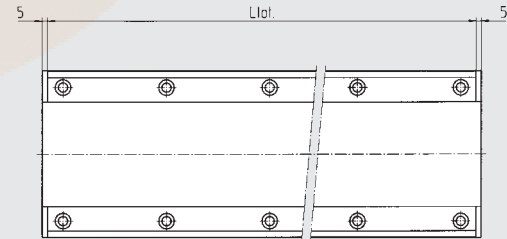
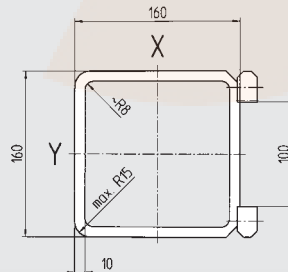
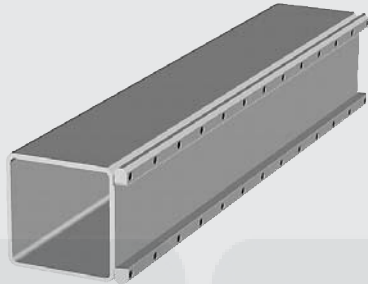
Tubular steel profile with guideways

The profiles are sandblasted, primed and machined to carry the rails. The profiles are supplied with mounted guideways. On request the profiles are painted with 2 coats of semi-gloss paint.



Type	Mat.	m ^① (kg/m)	m ^② (kg/m)	I _x ^① (cm ⁴)	I _x ^② (cm ⁴)	I _y ^① (cm ⁴)	I _y ^② (cm ⁴)	I _z (cm ⁴)
LP 160/90-20	St52-3 I.0570	34.1	43.1	524	737	1 310	1 710	1 280

① ohne Schienen / sans rails / without guideway bars
② mit Schienen / avec rails / with guideway bars



LP 160/160-20	St52-3 I.0570	45.1	54.1	2 100	2 690	2 100	2 460	3 470
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Bestellbeispiel

Exemple de commande

Ordering example

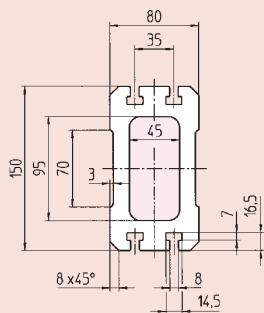
Type	LP 160/160-20	FZ 20 / FS 200	5160 mm	-	RAL 2004
Spezifikation der Schienen gemäss Seiten 01.29, 01.31 / Sélection des rails selon page 01.29, 01.31 / Selection of guideways according to page 01.29, 01.31					
Länge, longueur, length L_{tot} + 10 mm					
Option: Stirnseitiges Bohrbild nur auf Bestellung / Sur demande trous de fixation aux extrémités / On request fixing holes on front sides					
Option: Farbblackierung / Peinture en 2 composants / Semi-gloss paint					

Die gesamte Schienenlänge L_{tot} sollte wenn möglich aus der Summe der Teillängen der Elemente gebildet werden.

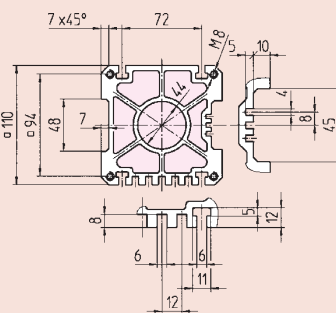
La longueur totale L_{tot} des rails devrait être la somme des longueurs individuelles des rails.

Overall length L_{tot} of the guideways should be the sum of each length of the elements.

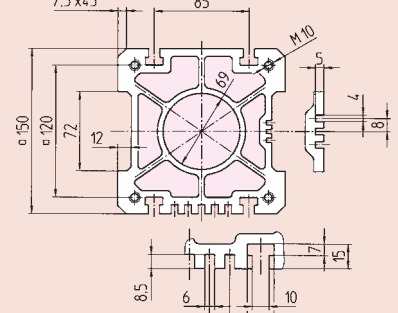
$$L_{tot} = n_1 \cdot 1030 + n_2 \cdot 630 + n_3 \cdot 330$$



ALP 150/80



ALP 110/110



ALP 150/150

Konstruktionsabmasse
Cotes de montage
Mounting dimensions

Trägerprofil in Alu mit Führungen

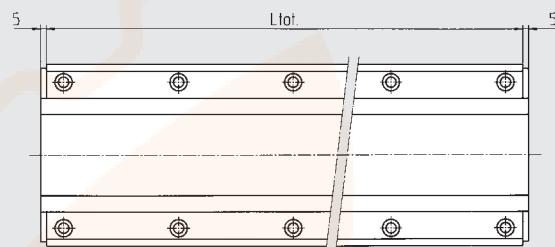
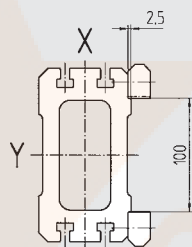
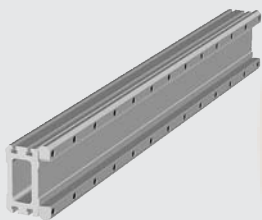
Gezogen und bearbeitet zur Aufnahme der Führungsschienen. Die Profile werden mit montierten Schienen geliefert. Auf Wunsch können sie eloxiert werden.

Poutre en alu avec rails

Profilés filés et usiné pour réception des rails. Livré avec ses rails montés. Sur demande anodisé.

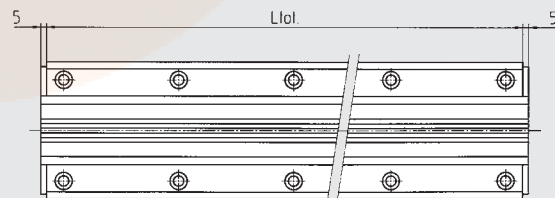
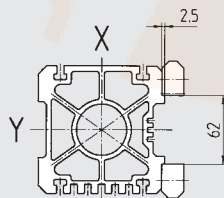
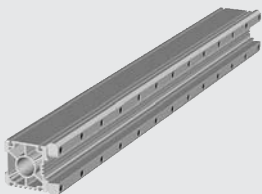
Tubular alu profiles with guideways

Extruded and machined. The profiles are supplied with mounted guideways. On request, the profiles can be anodized.



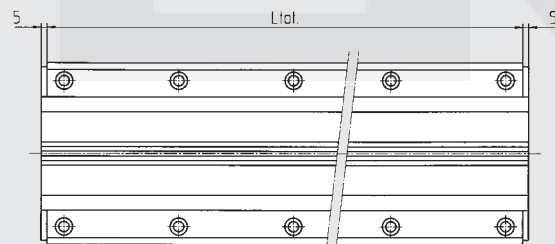
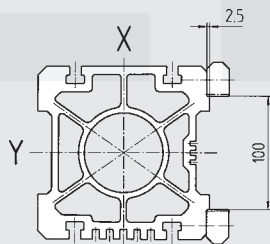
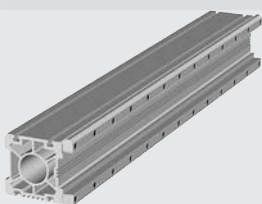
Type	Mat.	m [®] (kg/m)	m [®] (kg/m)	I _x [®] (cm ⁴)	I _x [®] (cm ⁴)	I _y [®] (cm ⁴)	I _y [®] (cm ⁴)	I _z (cm ⁴)
ALP 150/80-20	AlMgSi 0.5	17.7	26.7	469	660	1 550	1 880	626

① ohne Schienen / sans rails / without guideway bars
② mit Schienen / avec rails / with guideway bars



ALP 110/110-20	AlMgSi 0.5	12.3	21.3	606	922	609	763	341
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Option: Stirnseitiges Bohrbild nur auf Bestellung / Sur demande trous de fixation aux extrémités / On request fixing holes on front sides



ALP 150/150-20	AlMgSi 0.5	23.0	32.0	2 080	2 640	2 270	2 560	1 250
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Option: Stirnseitiges Bohrbild nur auf Bestellung / Sur demande trous de fixation aux extrémités / On request fixing holes on front sides



BAUGRÖSSE 20

TAILLE 20
SIZE 20

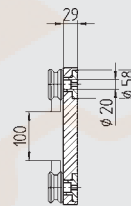
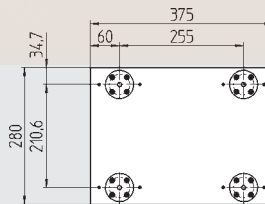
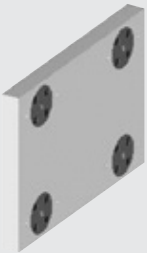
Laufwagen

Chariot

Carriage

I-Axis

→ y



Type
WP 20.0

Part No. (incl. SP Flansche excl. FR Rollen)
902 020

Mat.
AlMg4.5 Mn

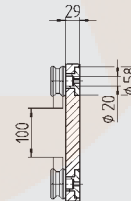
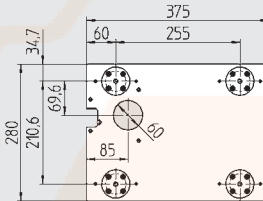
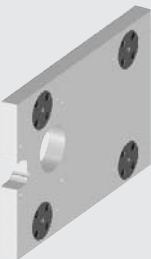
m (kg)
8,3

Trägerprofil / Poutre / Profile

→ y	↓ z
LP 160/ 90-20	—
LP 160/160-20	—
ALP 150/ 80-20	—
ALP 150/150-20	—

I-Axis

→ y



Für Anbau des
Hochleistungsgetriebes
AE045
Pour montage du
réducteur AE045
For fitting of worm gear
unit AE045

Type
WP 20.1

Part No. (incl. SP Flansche excl. FR Rollen)
902 070

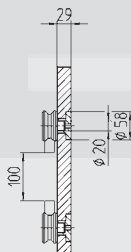
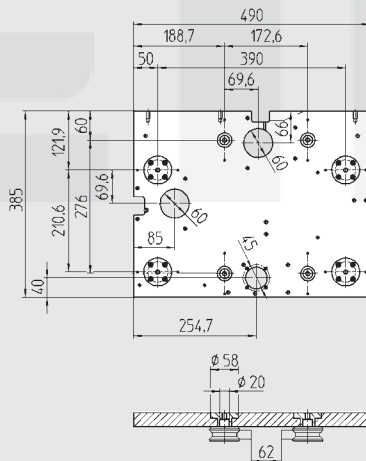
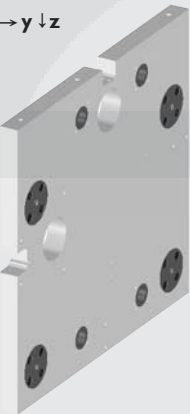
Mat.
AlMg4.5 Mn

m (kg)
8,0

→ y	↓ z
LP 160/ 90-20	—
LP 160/160-20	—
ALP 150/ 80-20	—
ALP 150/150-20	—

2-Axis

→ y ↓ z



Für Anbau des
Hochleistungsgetriebes
AE045
Pour montage du
réducteur AE045
For fitting of worm gear
unit AE045

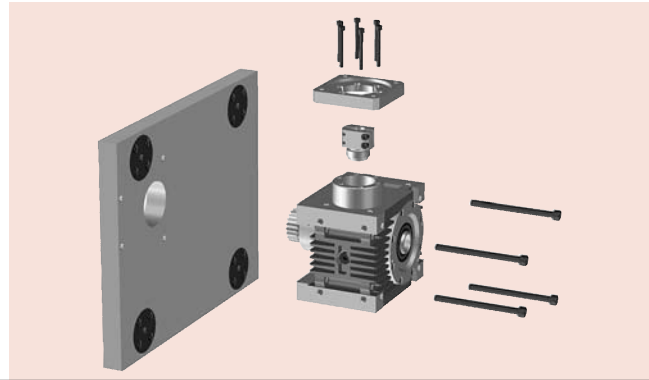
Type
WP 20.2

Part No. (incl. SP Flansche excl. FR Rollen)
902 071

Mat.
AlMg4.5 Mn

m (kg)
12,0

→ y	↓ z
LP 160/ 90-20	ALP 110/110-20
LP 160/160-20	ALP 110/110-20

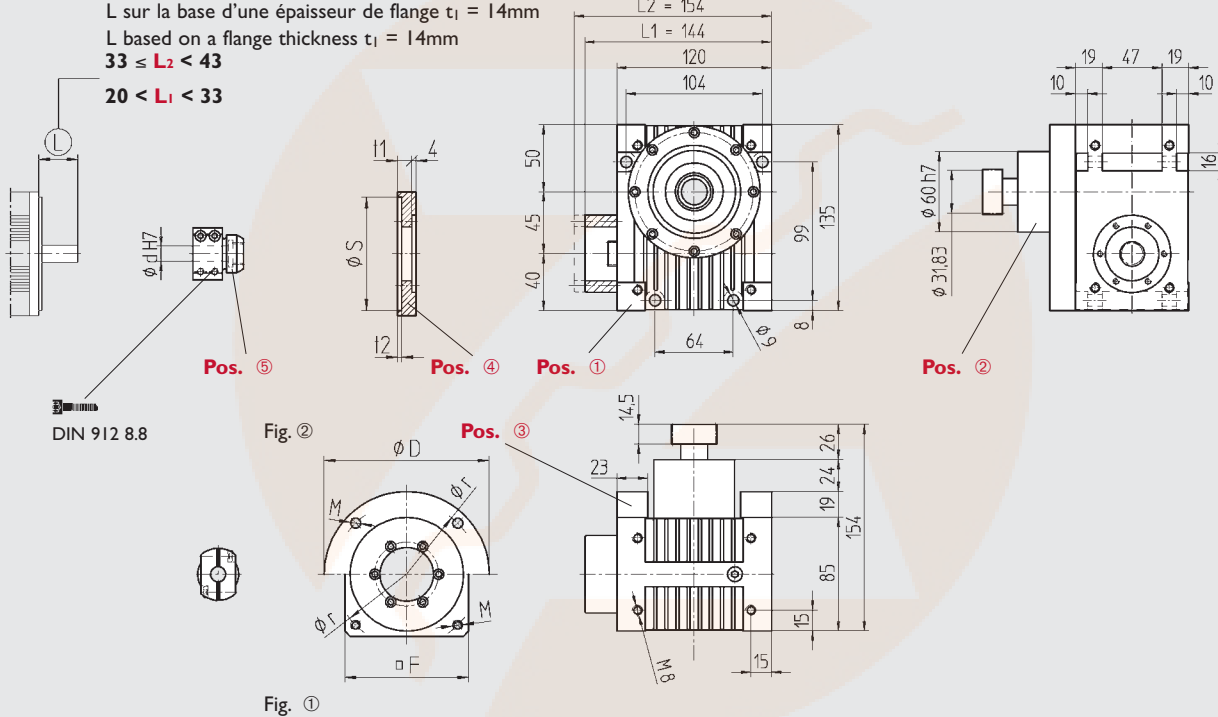


Hochleistungs-Schneckengetriebe

Réducteur à haute performance

Worm gear unit

Type AE045 L ausgelegt für Flansch mit $t_1 = 14\text{mm}$
 L sur la base d'une épaisseur de flange $t_1 = 14\text{mm}$
 L based on a flange thickness $t_1 = 14\text{mm}$
 $33 \leq L_2 < 43$
 $20 < L_1 < 33$



Pos. ① Getriebe / Réducteur / Worm gear unit

Part No.	Ratio	Inertia	
L_1	L_2	i	J (10^{-6} kg m^2)
404 500	404 510	2 : 1	97
		3 : 1	47
		4 : 1	29
		5 : 1	21
		6 : 1	16
		8 : 1	12
		10 : 1	10
		13 1/3 : 1	8
		16 : 1	7
		24 : 1	6

m (kg)

i : ab Lager / du stock / from stock

Pos. ④ Flansch / Bride / Flange

Part No.	Fig.	S	r	F	t_1	t_2	D	M	m (kg)
404 590	①	50	70	70	14	4	—	M5	0.25
404 581	①	50	95	82	14	4	—	M6	
404 582	①	60	75	70	14	4	—	M5	
404 592	①	60	90	75	14	4	—	M5	
404 585	①	70	85	80	14	4	—	M6	
404 593	①	70	90	80	14	4	—	M6	
404 580	①	80	100	92	14	4	—	M6	
404 594	①	80	100	90	18	8	—	M6	
404 583	①	95	115	100	14	4	—	M8	
404 595	①	110	145	120	14	4	—	M8	0.3
404 587	①	95	115	105	23	11	—	M8	
404 584	②	70	85	—	14	4	105	$\varnothing 7$	
404 586	②	80	100	—	14	4	120	$\varnothing 7$	

Pos. ② Abtrieb mit Ritzel / Bride de sortie avec pignon / Output flange with pinion

Part No.	Module	p	z	m (kg)
404 551	1.5915	5.0	20	1.7

p (mm): Teilung / pas / pitch

Pos. ③ Distanzstücke / Entretoise / Spacer

Part No.	m (kg)
404 560 ①	0.25

① Lieferung paarweise / Livraison en paire / Delivery in pairs

Pos. ⑤ Kupplung / Accouplement / Coupling

Part No.	d	J (10^{-6} kg m^2)	$T_{1\text{max}}$ (Nm)	M_A (Nm)	m (kg)
404 523	9	28	6.7	M4x16	3.1
404 522	11	27	8.2	M4x16	
404 521	14	26	10.4	M4x16	
404 525	16	26	12.0	M4x16	
404 520	19	25	14.2	M4x16	

$T_{1\text{max}}$: maximal übertragbares Moment der Kupplung / Couple max. de l'accouplement / Maximum torque of coupling

M_A : Anziehdrehmoment / Couple de serrage / Tightening torque

