

Product information

Drummotors

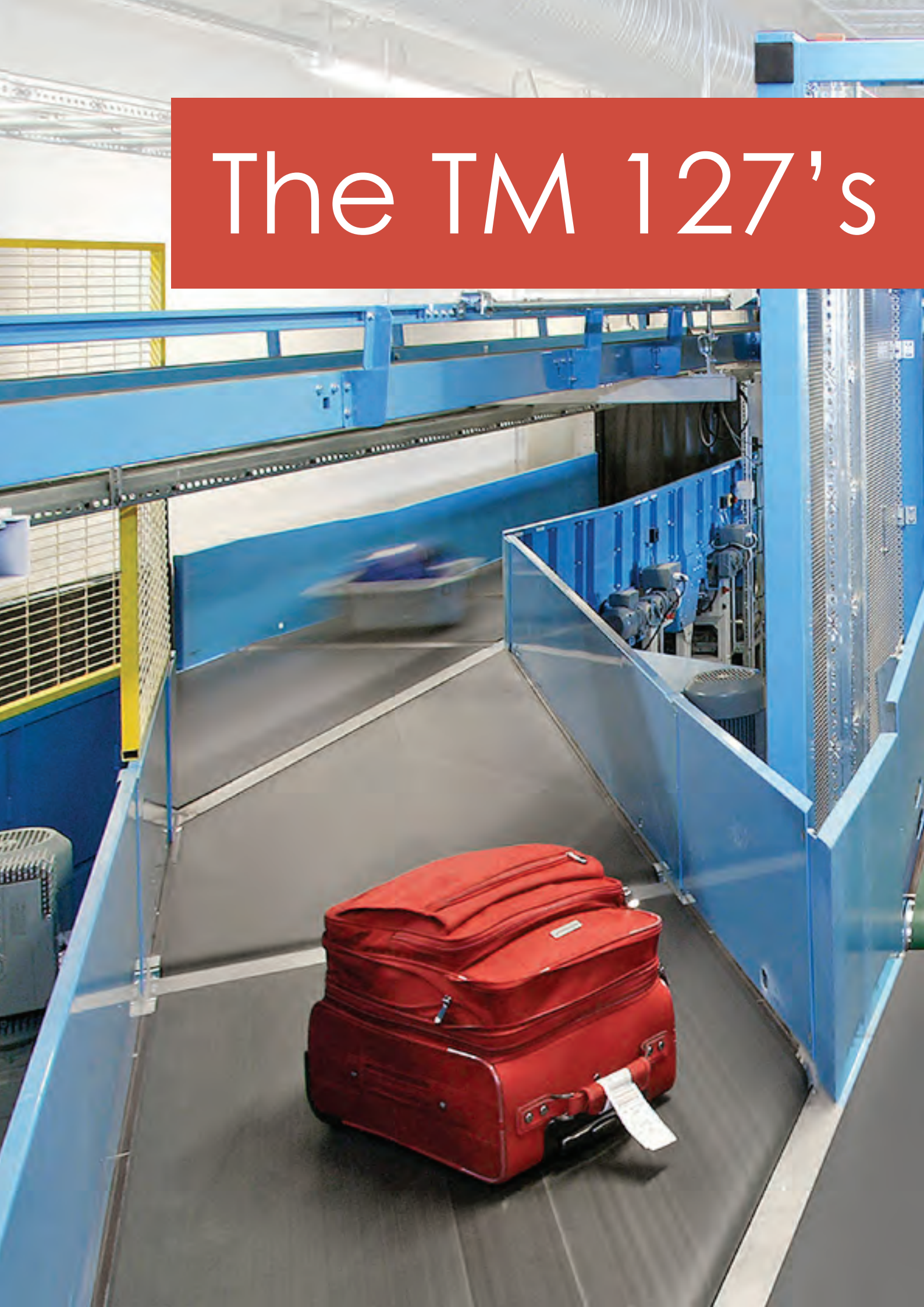
**TM 127-25**



*Van der Graaf*  
Power Transmission Equipment

[www.vandergraafpte.nl](http://www.vandergraafpte.nl)

# The TM 127's



playground





# TM 127-25

## A wide range of applications

Van der Graaf has achieved a prominent position on both the domestic and international market with its "GV" Drummotors.

The "GV" Drummotor has found success in a wide range of applications including the following: automotive, X-ray, construction, postal, courier, mining, aggregate, airline baggage, package flow, tyre manufacturing, fish processing, poultry processing, meat processing, agriculture, fruit and vegetable, farming, forestry, baking, dairy and many more.

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## Selection table

TYPE TM 127.25	Power kW	Beltspeed m/s at 50 Hz						Min. L mm Design A	Min. L mm Design B	Full load curr. 400 V - 50 Hz I = ... A	Weight kg L=350	
		Beltpull N										
415 Z	1,10	1,30 805	1,00 1045	0,85 1230	0,50 2090			350	350	2,8	21	
210 Z	0,75	2,60 275	2,00 355	1,70 420				300	325	1,4	20	
410 Z	0,75	1,30 550	1,00 715	0,85 840	0,65 1095	0,50 1425		300	325	1,9	20	
410 PL2		0,30 2300	0,24 2875	0,20 3450	0,16 4100			350	375			
275 Z	0,55	2,60 200	2,00 260	1,70 305				275	300	1,1	18	
475 Z	0,55	1,30 400	1,00 525	0,85 615	0,65 805	0,50 1045	0,40 1305	275	300	1,3	18	
475 PL2		0,30 1685	0,24 2110	0,20 2530	0,16 3165			325	350			
405 Z	0,37	1,30 270	1,00 350	0,85 415	0,65 540	0,50 705	0,40 880	0,32 1100	275	300	1,0	17
405 PL2		0,20 1700	0,16 2130						325	350		
405 PL3		0,046 4100	0,036 4100	0,031 4100	0,024 4100				375	400		
605 Z	0,37	0,25 1405						275	300	1,1	18	
605 PL2		0,14 2430	0,11 3095					325	350			
434 Z	0,25	1,30 185	1,00 240	0,85 280	0,65 365	0,50 475	0,40 595	0,32 740	250	275	0,7	16
834 Z	0,25	0,25 950	0,20 1190	0,16 1485				275	300	1,0	18	
834 PL2		0,12 1915	0,10 2300	0,08 2875				325	350			
834 PL3		0,023 4100	0,018 4100	0,015 4100	0,012 4100			375	400			
825 Z	0,18	0,25 685	0,20 855	0,16 1070				275	300	0,8	17	
818 Z	0,13	0,25 495	0,20 620	0,16 770				250	275	0,6	16	
1218 Z	0,13	0,12 1030	0,10 1235					300	325	0,9	20	
1218 PL2		0,08 1495	0,07 1710	0,05 2390				350	375			
1218 PL3		0,015 4100	0,012 4100	0,010 4100	0,008 4100			400	450			
1213 Z	0,10	0,12 790	0,10 950					275	300	0,6	18	

Available standard facewidth's: 250 - 275 - 300 - 325 - 350 - 375 - 400 - 450 - 500 - 550 - 600 - 650 - 700 - 750 - 800 - 850 - 900 - 950 - 1000 mm

When an electro-mechanical brake is fitted, the minimum facewidth is increased by 75 mm

The total weight of a Drummotor grows approx. 1,5 kg per 100 mm

Maximum beltpull: 4100 N (Imax on request or on data plate)

Available torque: (Beltpull N x drum diameter m) / 2 Nm

## Selection table Dahlander motors

TYPE TM 127.25	Power kW	Beltspeed m/s at 50 Hz						Min. L mm Design A	Min. L mm Design B	Full load curr. 400 V - 50 Hz I = ... A	Weight kg L=350
		Beltpull N									
475/210 Z	0,55/0,75	1,30/2,60 400/275	1,00/2,00 525/355	0,85/1,70 615/420	0,65/1,30 805/550	0,50/1,00 1045/715	0,40/0,80 1305/890	300	325	1,4/1,7	20
437/275 Z	0,27/0,55	1,30/2,60 200	1,00/2,00 260	0,85/1,70 305	0,65/1,30 400	0,50/1,00 525	0,40/0,80 655 0,32/0,64 815	275	300	0,9/1,3	18
825/405 Z	0,18/0,37	0,32/0,64 550	0,25/0,50 705	0,20/0,40 880	0,16/0,32 1100			275	300	1,0/0,9	18
825/405 PL2		0,12/0,24 1420	0,10/0,20 1700	0,08/0,16 2130				325	350		
825/405 PL3		0,023/0,046 4100	0,018/0,036 4100	0,015/0,030 4100	0,012/0,024 4100				375		

Available standard facewidth's: 275 - 300 - 325 - 350 - 375 - 400 - 450 - 500 - 550 - 600 - 650 - 700 - 750 - 800 - 850 - 900 - 950 - 1000 mm

When an electro-mechanical brake is fitted, the minimum facewidth is increased by 75 mm

The total weight of a Drummotor grows approx. 1,5 kg per 100 mm

Maximum beltpull: 4100 N (Imax on request or on data plate)

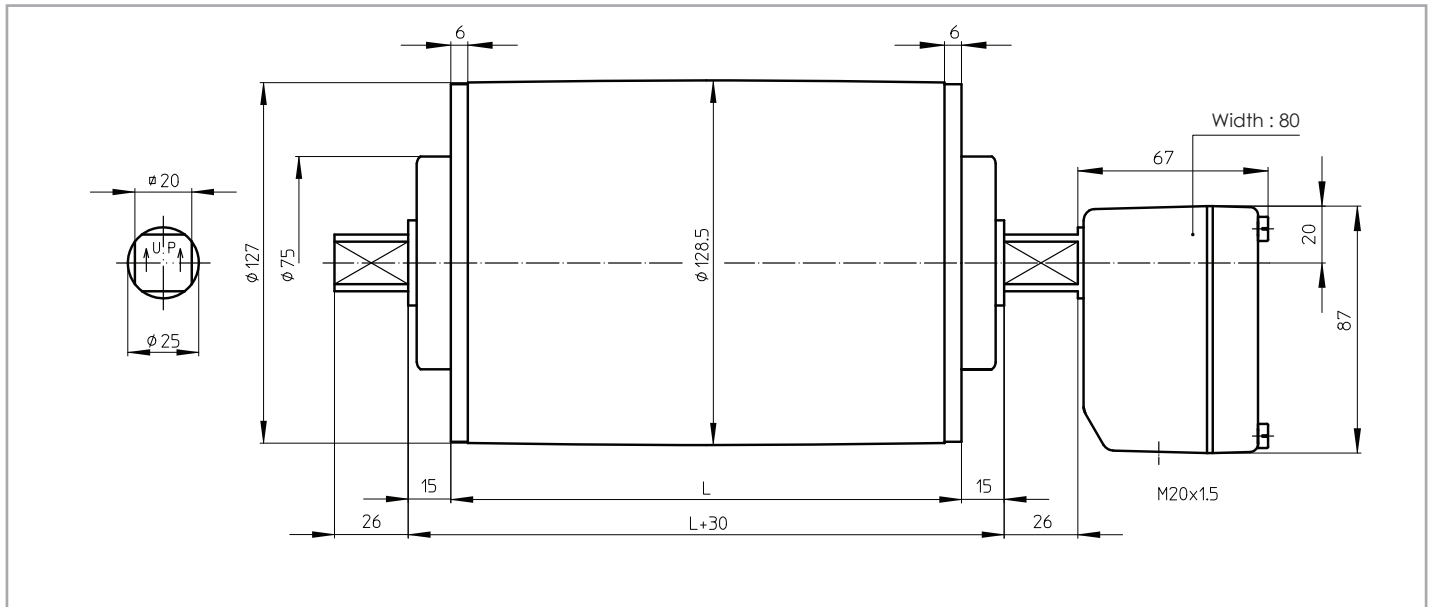
Available torque: (Beltpull N x drum diameter m) / 2 Nm



## Dimensions Drummotors mild steel

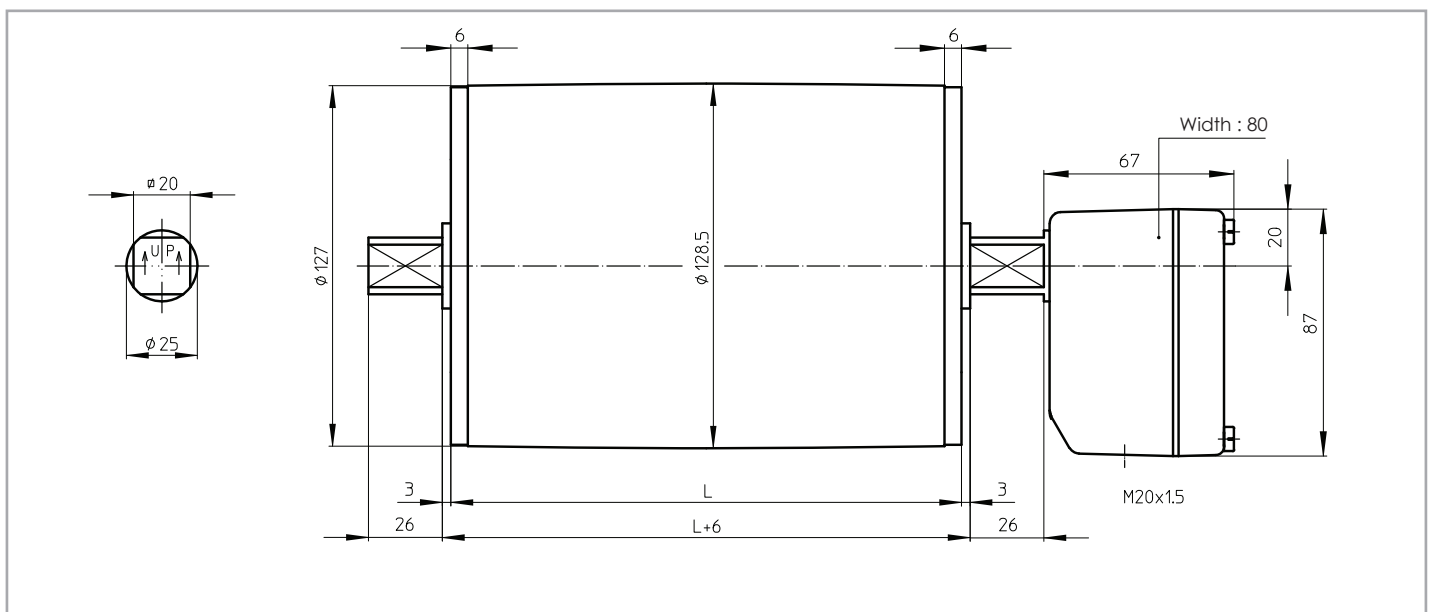
### TM 127A25

TM 127A25, mild steel Drummotor with cast iron junctionbox



### TM 127B25

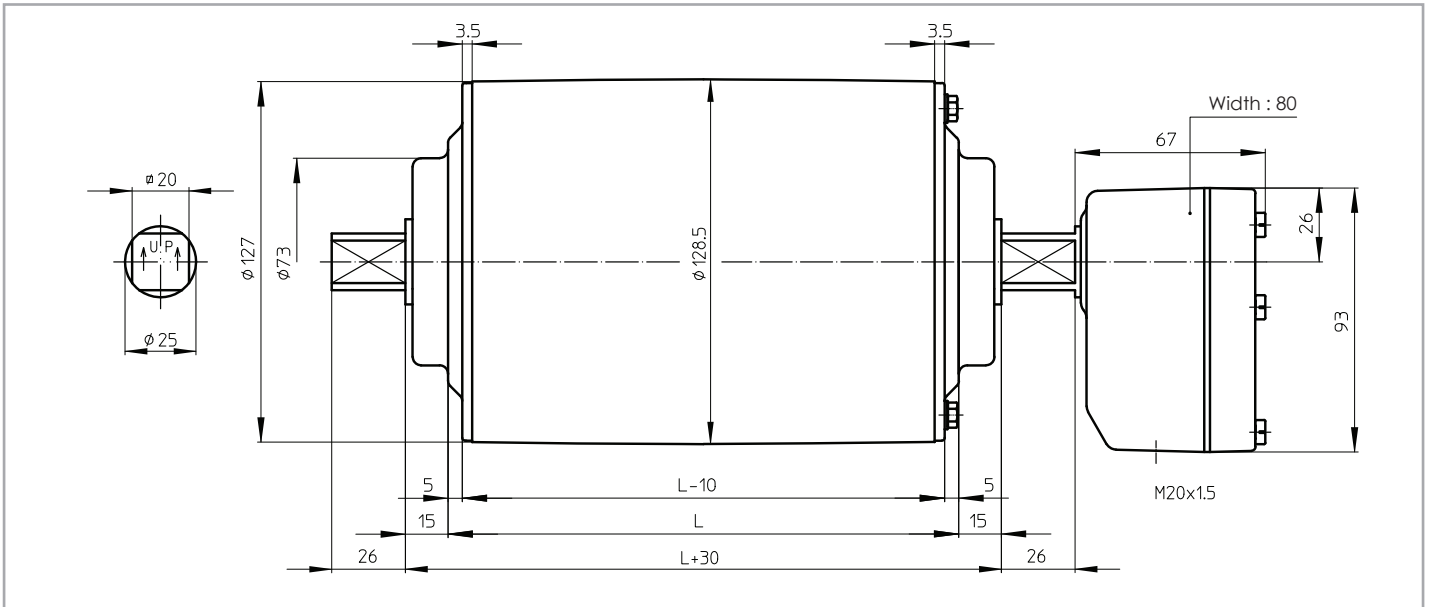
TM 127B25, mild steel Drummotor with cast iron junctionbox



# Dimensions Drummotors stainless steel

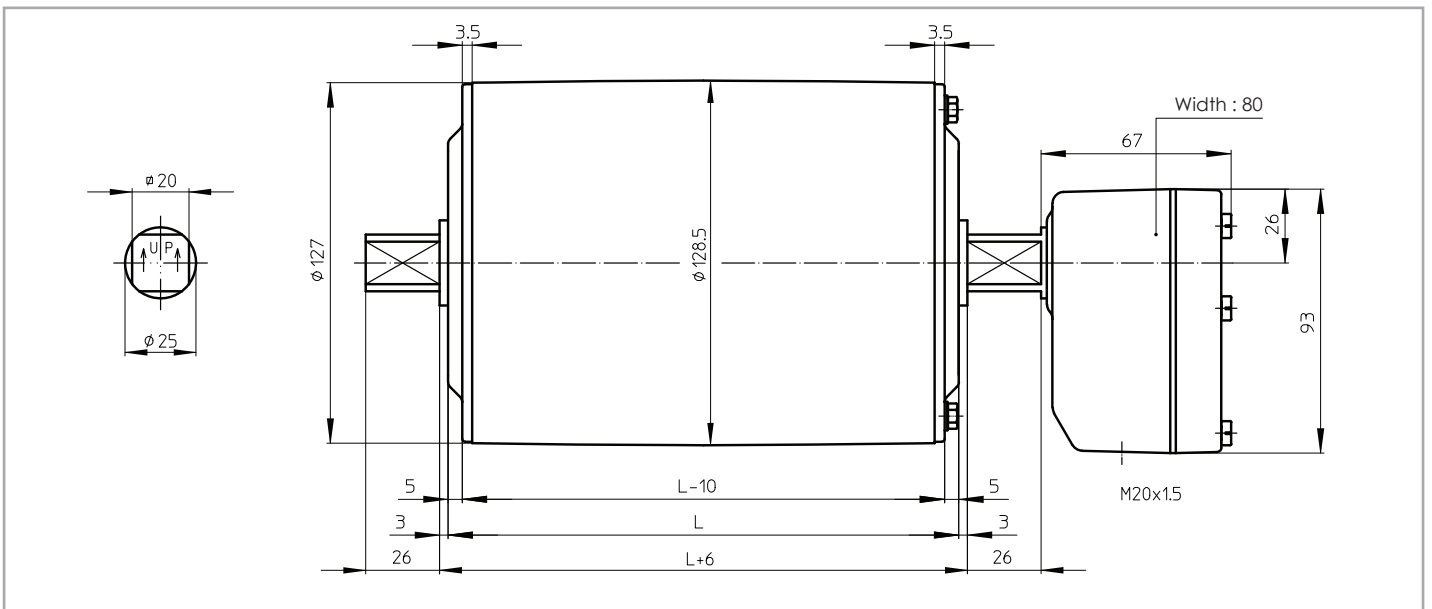
## TM 127A25 CR

TM 127A25 CR, stainless steel Drummotor with polyamide junctionbox and CR sealing



## TM 127B25 CR

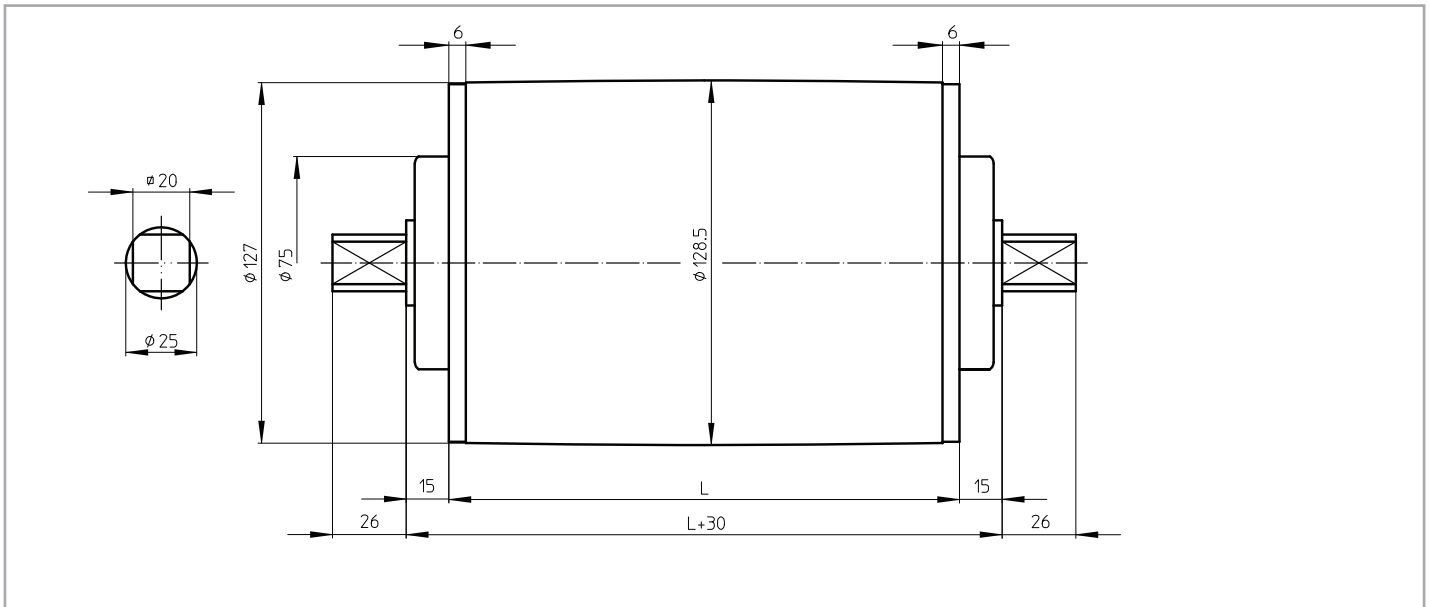
TM 127B25 CR, stainless steel Drummotor with polyamide junctionbox and CR sealing





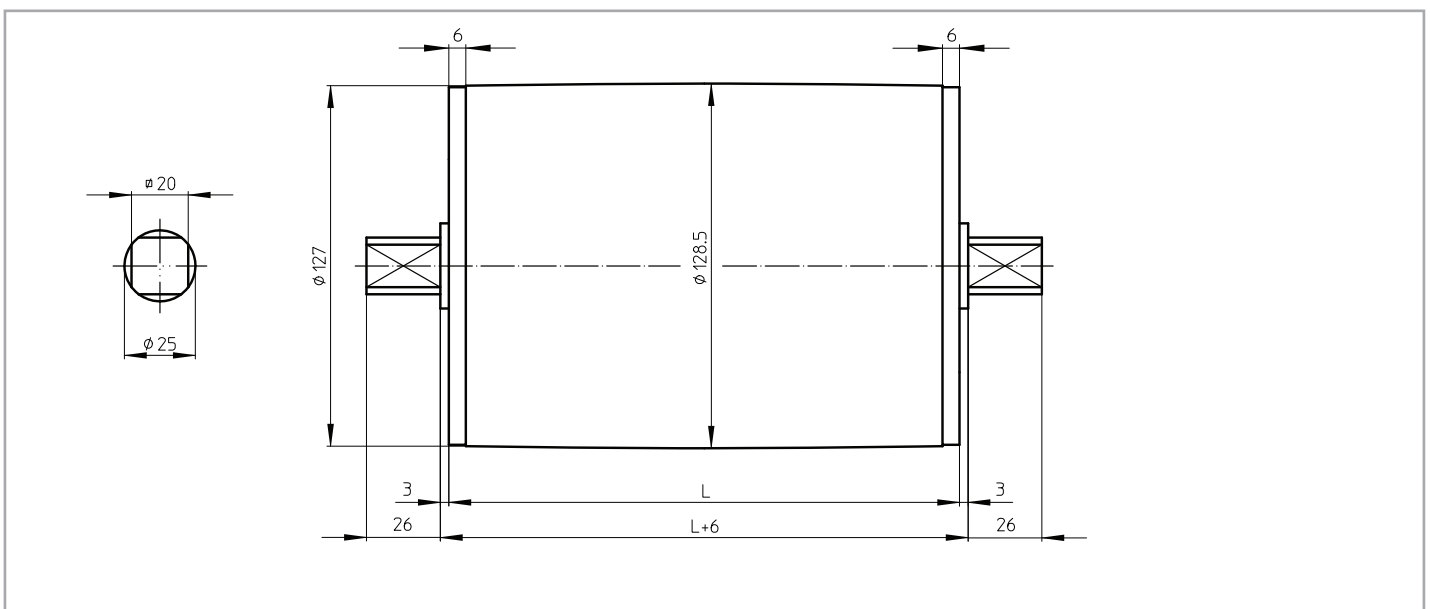
## KT 127A25

KT 127A25, mild steel Taildrum



## KT 127B25

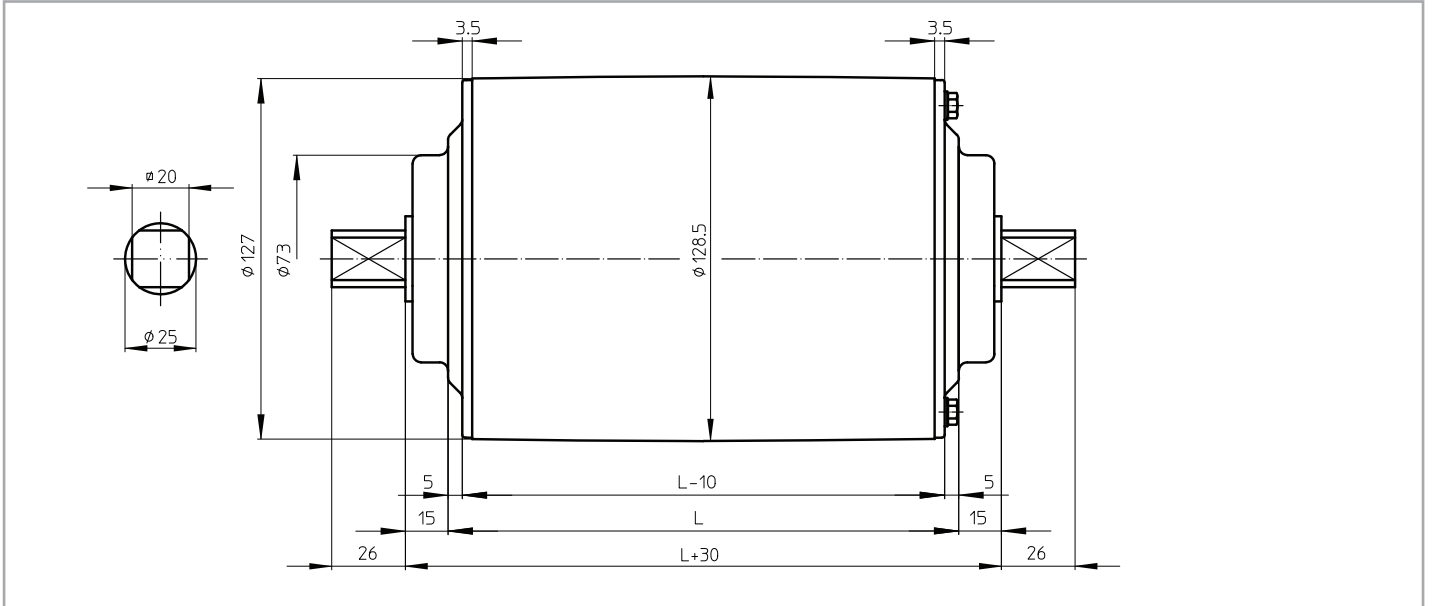
KT 127B25, mild steel Taildrum



# Dimensions Taildrums stainless steel

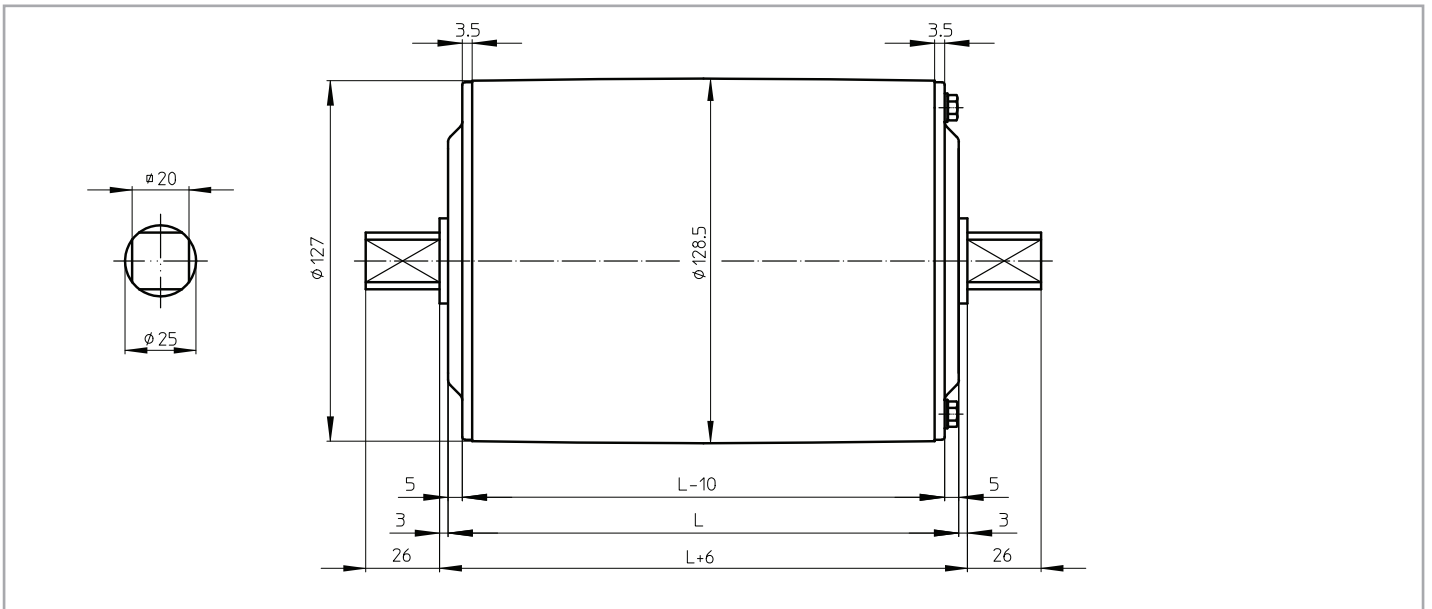
## KT 127A25 CR

KT 127A25 CR, stainless steel Taildrum with CR sealing



## KT 127B25 CR

KT 127B25 CR, stainless steel Taildrum with CR sealing



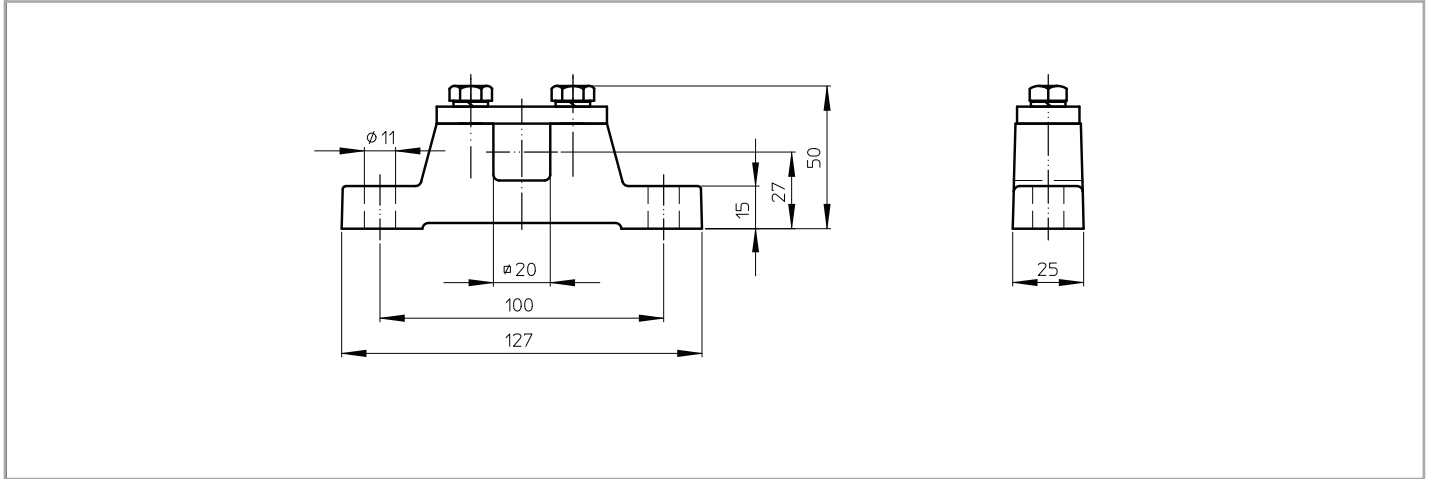


## Dimensions bracket

### AB 25

AB 25, cast iron or stainless steel bracket

Weight: 1,2 kg per pair



# Cable exit

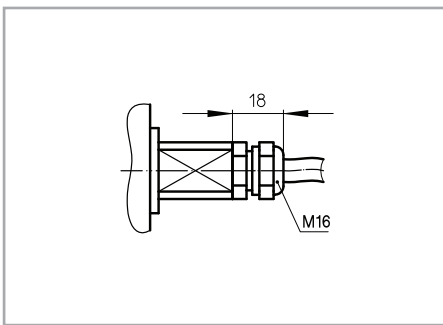
Standard design of a TM 127-25 is with a cast iron junctionbox. For stainless steel design, this can be either a polyamide or stainless steel junctionbox.

On request a Drummotor can be fitted with a cable. In this case it is important to know the available voltage (preferably 1 voltage), the length of the cable, whether the cable is shielded or not and the type of cable exit.

An overview of available cable exits is shown below.

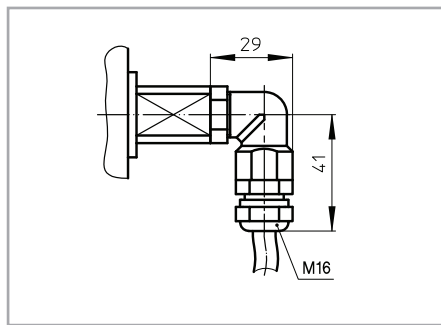
## Option 1

Straight cable exit with cable gland



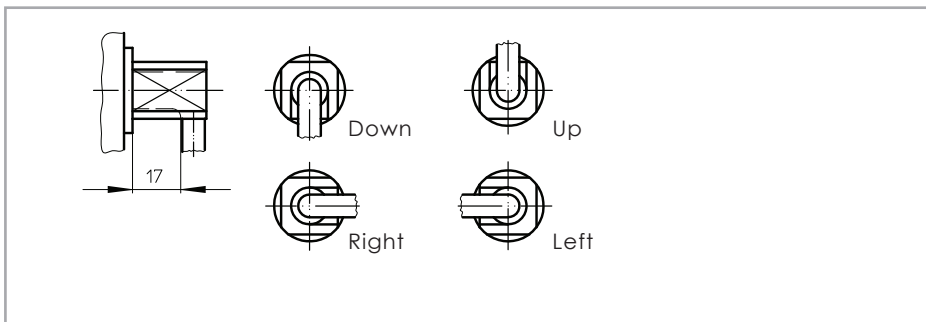
## Option 3

Elbow cable exit with cable gland  
(minimum facewidth increases with 25 mm)



## Option 4

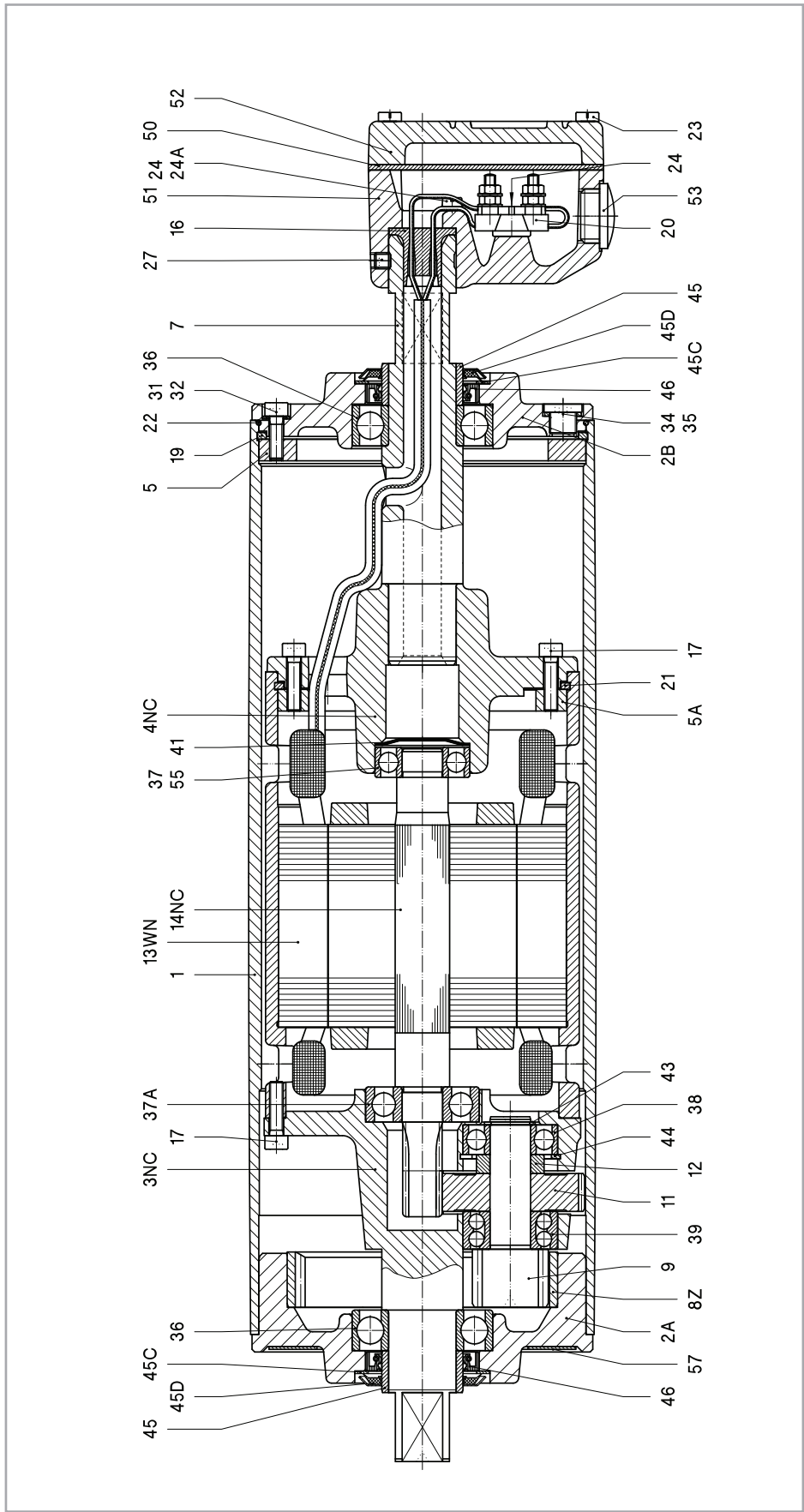
Open cable exit (minimum facewidth increases with 25 mm)





## TM 127A25 Z

## Legenda



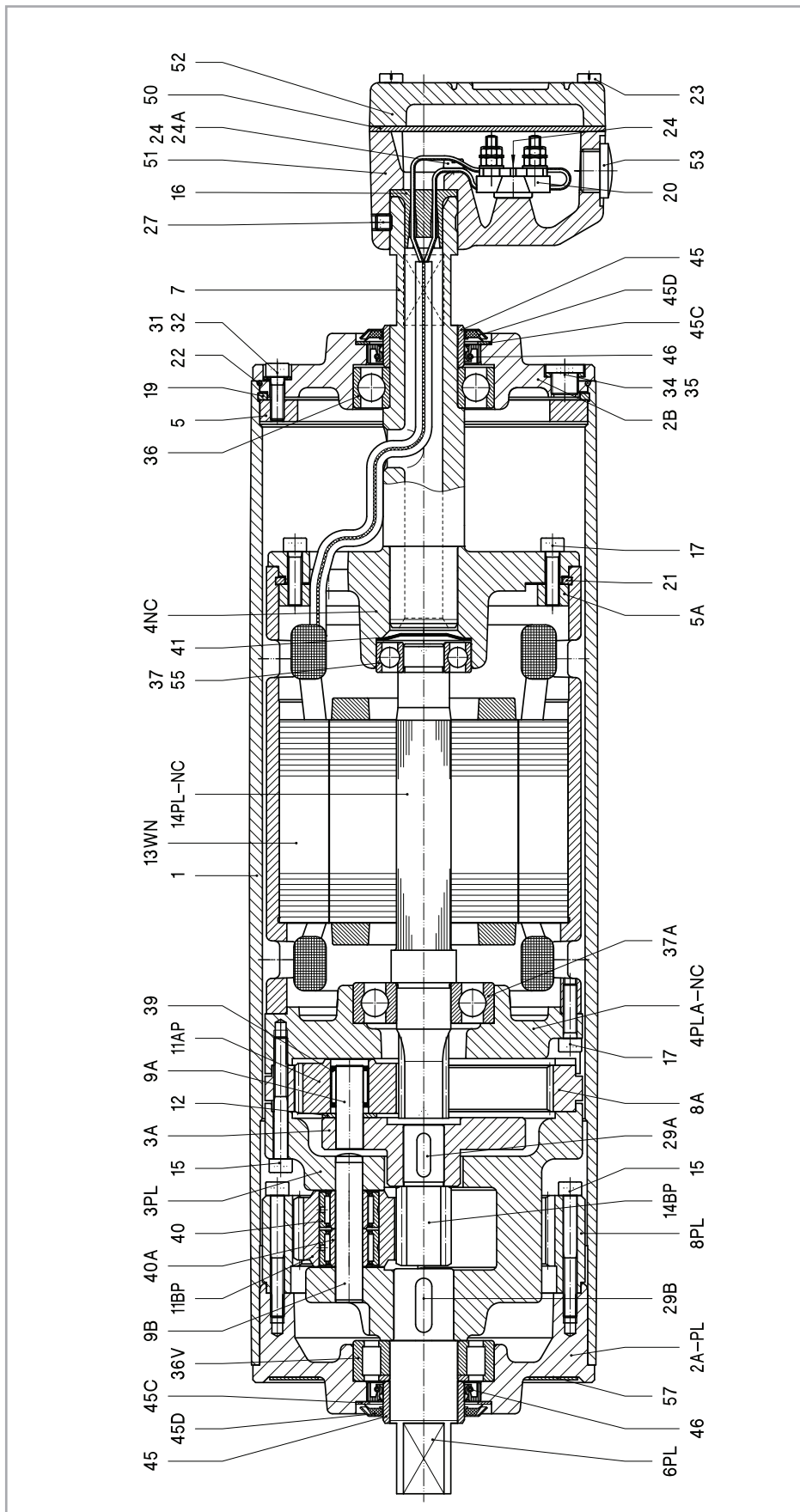
Remark: Drum motor also available in B-design (TM127B25 Z)

1	Shell	11	Gear	23	37A	Ballbearing	50	Seal
2A	Endflange	12	Distance ring	24	38	Ballbearing	51	Junctionbox
2B	Endflange	13WN	Stator	24A	39	Double-row ballbearing	52	Junctionbox cover
3NC	Gearhousing	14NC	Rotor	27	41	Locking disc	53	Stopping plug
4NC	Motorflange	16	Cable passage	31	43	Circlip	55	Ballbearing incl. backstop
5	Mountingring	17	Int. hex screw	32	44	Circlip	57	Dataplate
5A	Mountingring	19	Springring	34	45	Bearing race		
7	Hollow shaft	20	Terminalboard	35	45C	Shim plated		
8Z	Internal gear	21	Springring	36	45D	Gammaring		
9	Pinion	22	O-ring	37	46	Olised		
5		5		5	5			
7		7		7	7			
19		19		19	19			
22		22		22	22			
31		31		31	31			
32		32		32	32			
36		36		36	36			
37		37		37	37			
45		45		45	45			
45C		45C		45C	45C			
45D		45D		45D	45D			
46		46		46	46			
48Z		48Z		48Z	48Z			
57		57		57	57			
58Z		58Z		58Z	58Z			
59A		59A		59A	59A			
59C		59C		59C	59C			
59D		59D		59D	59D			
60Z		60Z		60Z	60Z			
61A		61A		61A	61A			
61C		61C		61C	61C			
61D		61D		61D	61D			
62Z		62Z		62Z	62Z			
63A		63A		63A	63A			
63C		63C		63C	63C			
63D		63D		63D	63D			
64Z		64Z		64Z	64Z			
65A		65A		65A	65A			
65C		65C		65C	65C			
65D		65D		65D	65D			
66Z		66Z		66Z	66Z			
67A		67A		67A	67A			
67C		67C		67C	67C			
67D		67D		67D	67D			
68Z		68Z		68Z	68Z			
69A		69A		69A	69A			
69C		69C		69C	69C			
69D		69D		69D	69D			
70Z		70Z		70Z	70Z			
71A		71A		71A	71A			
71C		71C		71C	71C			
71D		71D		71D	71D			
72Z		72Z		72Z	72Z			
73A		73A		73A	73A			
73C		73C		73C	73C			
73D		73D		73D	73D			
74Z		74Z		74Z	74Z			
75A		75A		75A	75A			
75C		75C		75C	75C			
75D		75D		75D	75D			
76Z		76Z		76Z	76Z			
77A		77A		77A	77A			
77C		77C		77C	77C			
77D		77D		77D	77D			
78Z		78Z		78Z	78Z			
79A		79A		79A	79A			
79C		79C		79C	79C			
79D		79D		79D	79D			
80Z		80Z		80Z	80Z			
81A		81A		81A	81A			
81C		81C		81C	81C			
81D		81D		81D	81D			
82Z		82Z		82Z	82Z			
83A		83A		83A	83A			
83C		83C		83C	83C			
83D		83D		83D	83D			
84Z		84Z		84Z	84Z			
85A		85A		85A	85A			
85C		85C		85C	85C			
85D		85D		85D	85D			
86Z		86Z		86Z	86Z			
87A		87A		87A	87A			
87C		87C		87C	87C			
87D		87D		87D	87D			
88Z		88Z		88Z	88Z			
89A		89A		89A	89A			
89C		89C		89C	89C			
89D		89D		89D	89D			
90Z		90Z		90Z	90Z			
91A		91A		91A	91A			
91C		91C		91C	91C			
91D		91D		91D	91D			
92Z		92Z		92Z	92Z			
93A		93A		93A	93A			
93C		93C		93C	93C			
93D		93D		93D	93D			
94Z		94Z		94Z	94Z			
95A		95A		95A	95A			
95C		95C		95C	95C			
95D		95D		95D	95D			
96Z		96Z		96Z	96Z			
97A		97A		97A	97A			
97C		97C		97C	97C			
97D		97D		97D	97D			
98Z		98Z		98Z	98Z			
99A		99A		99A	99A			
99C		99C		99C	99C			
99D		99D		99D	99D			
100Z		100Z		100Z	100Z			

# Cross sectional / parts description

TM 127A25 PL2

Legenda

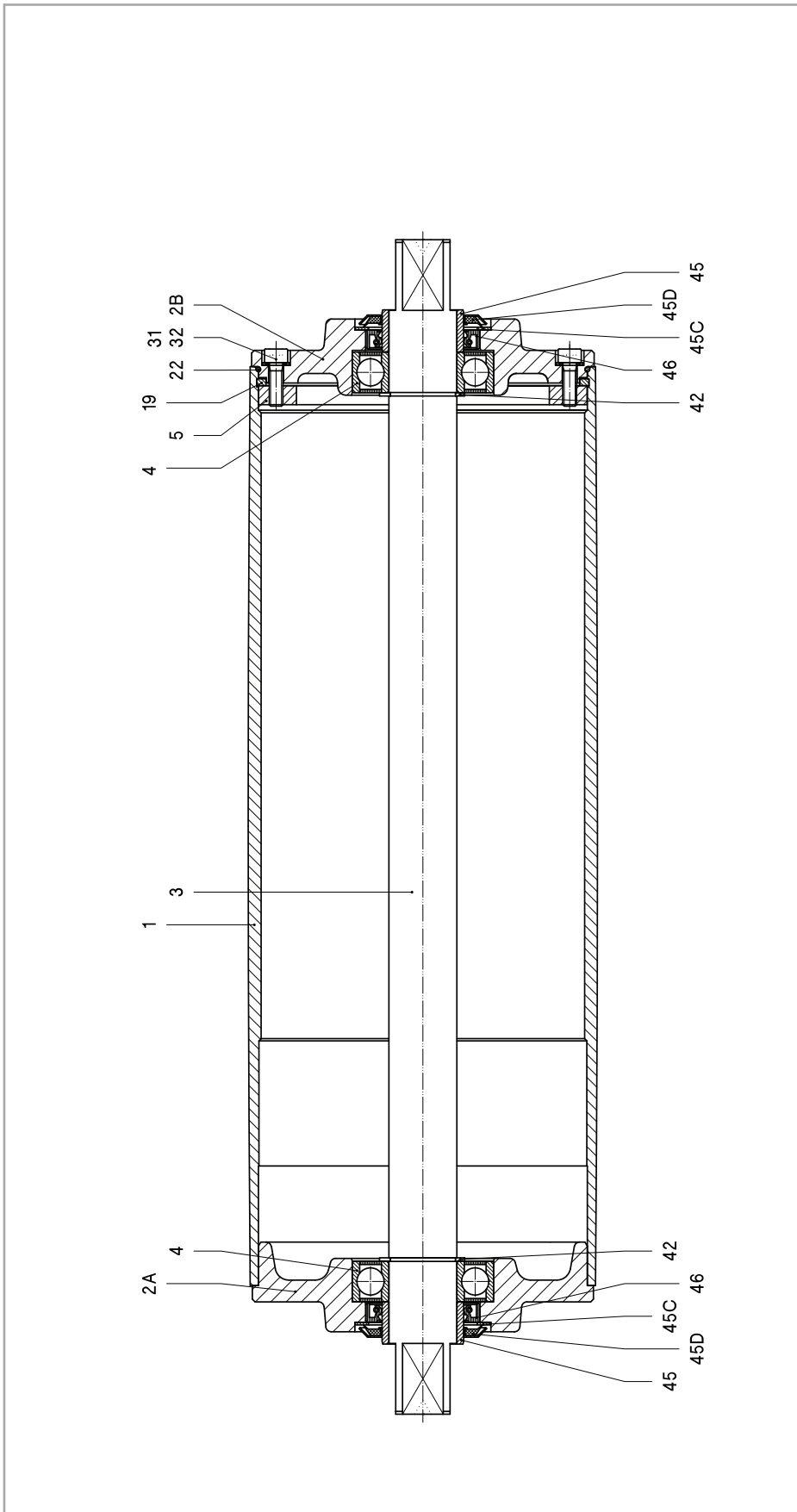


Remark: Drummotor also available in B-design (TM127B25 PL2)

1	Shell	8PL	Internal gear	19	Springing	34	Fillerplug	45D	Gammaring
2A-PL	Endflange	9A	Cylindrical pin	20	Terminalboard	35	Washer	46	Oilseal
2B	Endflange	9B	Cylindrical pin	21	Springing	36	Ballbearing	50	Seal
3A	Planetary housing	11AP	Planetary gear	22	O-ring	36V	Cyl. roller bearing	51	Junctionbox
3PL	Planetary carrier	11BP	Planetary gear	23	Cyl. head screw	37	Ballbearing	52	Junctionbox cover
4NC	Motorflange	12	Shim	24	Cyl. head screw	37A	Ballbearing	53	Stopping plug
4PLA-NC	Motorflange	13WN	Stator	24A	Toothed lock washer	39	Needlebearing	55	Ballbearing incl. backstop
5	Mountingring	14PL-NC	Rotor	27	Setscrew	40	Needlebearing	57	Dataplate
5A	Mountingring	14BP	Sunwheel	29A	Key	40A	Innerring		
6PL	Shaftend	15	Int. hex screw	29B	Key	41	Locking disc		
7	Hollow shaft	16	Cable passage	31	Int. hex screw	45	Bearing race		
8A	Internal gear	17	Int. hex screw	32	Washer	45C	Shim plated		

KT 127A25

Legenda



Remark: Taildrum also available in B-design (KT127B25)

1	Shell	42	Circlip
2A	Endflange	45	Bearing race
2B	Endflange	45C	Shim plated
3	Shaft	45D	Gammaring
4	Ballbearing	46	Oliseal
5	Mountingring		
19	Springring		
22	O-ring		
31	Int. hex screw		
32	Washer		

## Material

The external parts of the Drummotor are made from mild steel and cast iron. Depending on the application it is also possible to manufacture in stainless steel (complete or part). You can choose between stainless steel 304 (general food industry) and stainless steel 316 (salt water applications).

## Backstop - Brake

If an inclined belt conveyor is stopped fully loaded, it could run backwards.

To prevent this we can install a backstop. One of the bearings in the Drummotor is replaced by a one way bearing. The way this bearing is installed determines the direction of rotation of the drum. TBRH indicates a cw rotation and TBLH ccw.

In situations where a Drummotor needs to be able to drive in both directions it is not possible to use a backstop. In this case we use a brake. When an declined belt or a horizontal belt needs to be stopped quickly to pick or place items a brake is the best solution.

## Inclined position

Sometimes a Drummotor needs to be installed on an inclined or even vertical position. This is possible, but we need to make adjustments to the oil level in the drum as the oil will flow to the lower side of the Drummotor causing the top bearing to run without lubrication. To prevent problems we will need to know the installation angle so we can fill the drum with extra oil and fit a double sealed bearing on the upper side.

## Thermal protection

A Van der Graaf Drummotor can be fitted with thermal protection. This consists of either a thermistor (PTC) or bi-metal (klixon). We install these on each phase of the electric motor.

## Encoder - Sensor bearing

In certain applications it is required to measure the speed or position of a conveyor belt. For this type of application we can install an encoder or sensor bearing to accurately measure rotational speed of the Drummotor.

The accuracy needed will determine the type of encoder or sensor used.

## Lagging

The power produced by the Drummotor has to be transferred to the belt and lagging is used to give more friction between the Drummotor and the conveyor belt. Van der Graaf can fit your Drummotor with different kinds of lagging.

There is a difference between cold and hot vulcanised lagging. Cold vulcanised means the lagging is glued to the Drummotor usually in sheet form and the join 'welded' together. Hot vulcanising is a process where the shell is wrapped around with thin layers of rubber. The shell with the rubber is then baked in an autoclave fusing the layers together creating a seamless finish.

It is possible to cut grooves (e.g chevron or diamond) in the lagging.

## Sprockets

Do you wish to use a Drummotor to drive modular belts? Van der Graaf can help you! Fitting sprockets suitable for various types of modular belts is a simple solution. The Drummotor is manufactured with a cylindrical shell and machined with a patented 'keying' system. The sprockets are simply 'slid' on and locked securely into position.



## Sealings for mild steel Drummotors

RB sealing - IP 66



This is Van der Graaf's standard sealing. This type of sealing will work in most conditions.

RBS sealing - IP 66



This sealing is specifically designed for those applications where high water pressure is used for cleaning.

HD sealing - IP 66



This sealing is designed for abrasive applications, like sand, gravel and soil.

## Sealings for stainless steel Drummotors

CR sealing - IP 66



This is our standard sealing for stainless steel Drummotors, a very effective, multi labyrinth sealing.

UW sealing - IP 68



This sealing is suitable for under water applications. The maximum depth is approx 2,5 m.

# Options

Specification	Standard	Optional
<b>Construction</b>		
Shafts and bolts	Mild steel	Stainless steel
Endflanges	Cast iron	Stainless steel
Shell	Mild steel	Stainless steel
Junctionbox	Cast iron	Stainless steel or polyamide
Cable		Shielded or non-shielded
Sealing mild steel	RB	RBS, HD
Sealing stainless steel	CR	UW
<b>Shell</b>		
Crowned	•	
Cylindrical		•
Balanced		•
Lagging, cold vulcanised		•
Lagging, hot vulcanised		•
Lagging, FDA approved		•
Fitted with grooves, patterns		•
Sprockets		•
<b>Electro motor</b>		
Three-phase asynchronous	•	
Power supply	230/400 V - 50 Hz	Other voltages and frequencies on request
Two speed (Dahlander)		•
Insulation class	F	H
Thermal protection		Bi-metal or thermistor
Run by frequency inverter	•	
<b>Other options</b>		
Food grade oil		•
Backstop, mechanical		•
Brake, electro mechanical		•
Clutch brake, electro mechanical		•
Inclined or vertical position		•
Other facewidth's		•
Different shaft designs		•
Encoder or sensor bearing in drum motor		•
Encoder or sensor bearing in tail drum		•
<b>Certificates</b>		
CE	•	
UL		•
CSA		•
ATEX zone 22, dust		•
UW Under water application (IP68)		•



## Product range

### Our products, an overview

Drum motor type	TM 100B25	TM 113B25	TM 127.25	TM 138.25	TM 160.25	TM 160.30	TM 215.30	TM 215.40
Drum diameter (mm)	100	113	127	138	160	160	215	215
Shaft diameter (mm)	25	25	25	25	25	30	30	40
Power (kW)	0.05-0.37	0.04-0.55	0.10-1.1	0.10-1.1	0.10-0.75	0.10-2.2	0.10-2.2	0.37-5.5
Speed (m/s)	0.007-3.60	0.008-4.40	0.008-2.60	0.009-2.80	0.13-3.30	0.06-4.00	0.08-5.30	0.12-4.70

Drum motor type	TM 215B50	TM 273.40	TM 315.40	TM 315.50	TM 400.50	TM 400.60	TM 500.60	TM 500A75
Drum diameter (mm)	215	273	315	315	400	400	500	500
Shaft diameter (mm)	50	40	40	50	50	60	60	75
Power (kW)	1.5-4.0	0.37-5.5	0.37-5.5	1.1-11	1.1-11	1.5-22	1.5-22	11-30
Speed (m/s)	0.18-0.31	0.16-4.95	0.18-5.20	0.16-4.40	0.20-4.80	0.20-4.60	0.25-4.70	0.80-3.20

Drum motor type	TM 620A75	TM 630A100	TM 800A100	TM 800A130
Drum diameter (mm)	620	630	800	800
Shaft diameter (mm)	75	100	100	130
Power (kW)	11-30	22-55	22-55	55-132
Speed (m/s)	1.00-3.90	1.00-4.00	1.25-5.10	1.60-4.50



#### Design benefits

- Robust, industrial design
- Fully enclosed
- Oil filled
- Well-sized gears and bearings

#### Installation advantages

- Easy to install
- Compact and reliable
- Easy to clean
- Virtually maintenance free
- Low Life Cycle Costs





# Van der Graaf

## Power Transmission Equipment

### Contact us

#### Netherlands

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