

Product information

Drummotors

**TM 620A75**

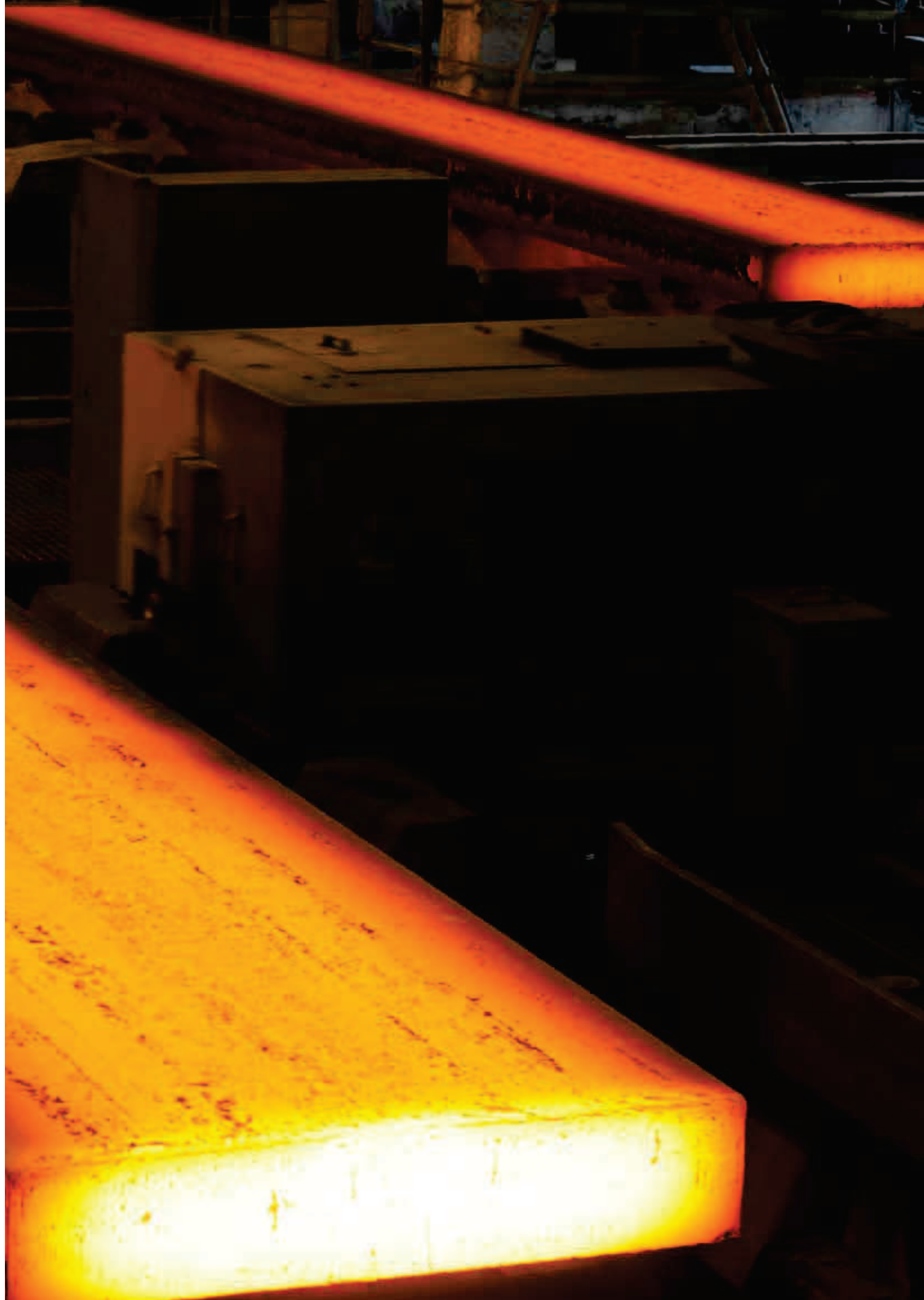


*Van der Graaf*  
Power Transmission Equipment

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

The image shows a large industrial facility, likely a steel mill, with a prominent glowing orange molten metal stream. The scene is dimly lit, with the primary light source being the intense heat of the molten metal. The text "The TM 620's playground" is overlaid in a bright orange color, matching the molten metal. The background shows various industrial structures, including railings and platforms, all bathed in the orange glow of the molten metal.

# The TM 620's playground





# TM 620A75

## 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.

4	Introduction
5	Selection table
6	Dimensions Drummotors Dimensions Taildrums
7	Dimensions bracket / Cable exit
8	Cross sectional / parts description
10	Options
13	Product range
14	Notes
16	Contact us



## Selection table

TYPE TM 620A75	Power kW	Beltspeed m/s at 50 Hz				Min. L mm Design A	Full load curr. 400 V - 50 Hz I = ... A	Weight kg L=850
		Beltpull N						
<b>440 Z</b>	<b>30,0</b>	<b>3,90</b> 7310	<b>3,10</b> 9190	<b>2,50</b> 11400		950	52,0	820 (L=950)
<b>430 Z</b>	<b>22,0</b>	<b>3,90</b> 5360	<b>3,10</b> 6740	<b>2,50</b> 8360	<b>2,00</b> 10450	850	37,0	700
<b>425 Z</b>	<b>18,5</b>	<b>3,90</b> 4505	<b>3,10</b> 5670	<b>2,50</b> 7030	<b>2,00</b> 8790	850	32,0	690
<b>620 Z</b>	<b>15,0</b>	<b>2,60</b> 5480	<b>2,10</b> 6785	<b>1,60</b> 8905	<b>1,25</b> 11400	850	31,5	700
<b>815 Z</b>	<b>11,0</b>	<b>2,00</b> 5225	<b>1,50</b> 6965	<b>1,25</b> 8360	<b>1,00</b> 10450	850	26,0	700

Available standard facewidth's: 850 - 900 - 950 - 1000 - 1050 - 1100 - 1150 - 1400 - 1600 mm

When an electro-mechanical brake is fitted, the minimum facewidth is increased by 150 mm

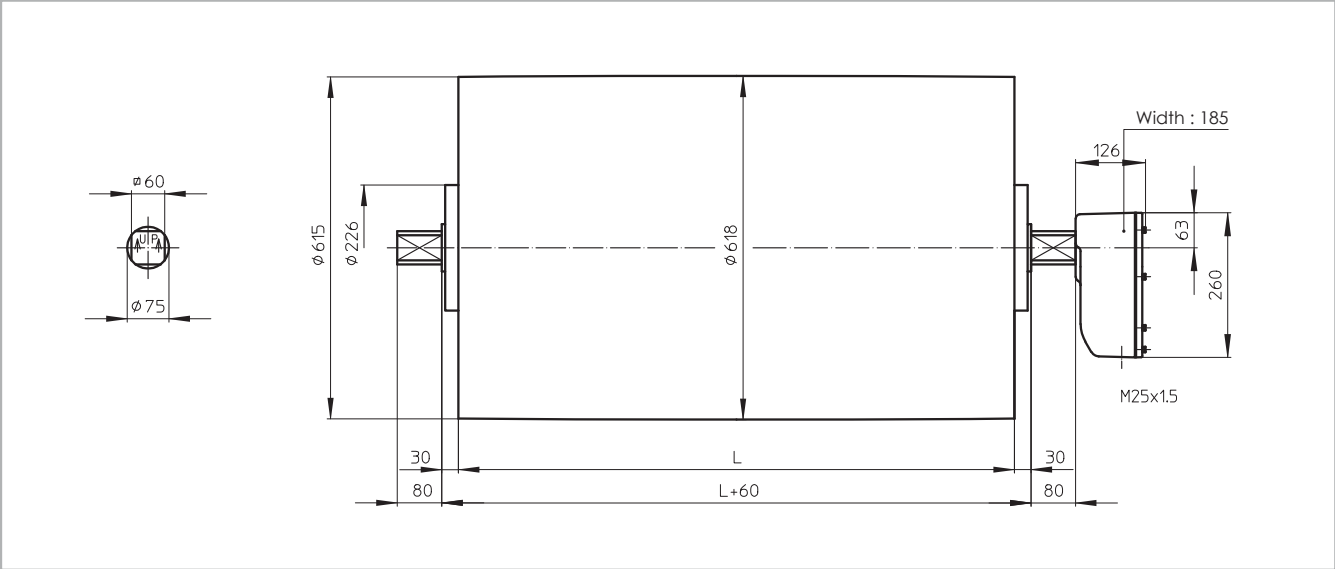
The total weight of a Drummotor grows approx. 38,7 kg. per 100 mm

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

# Dimensions

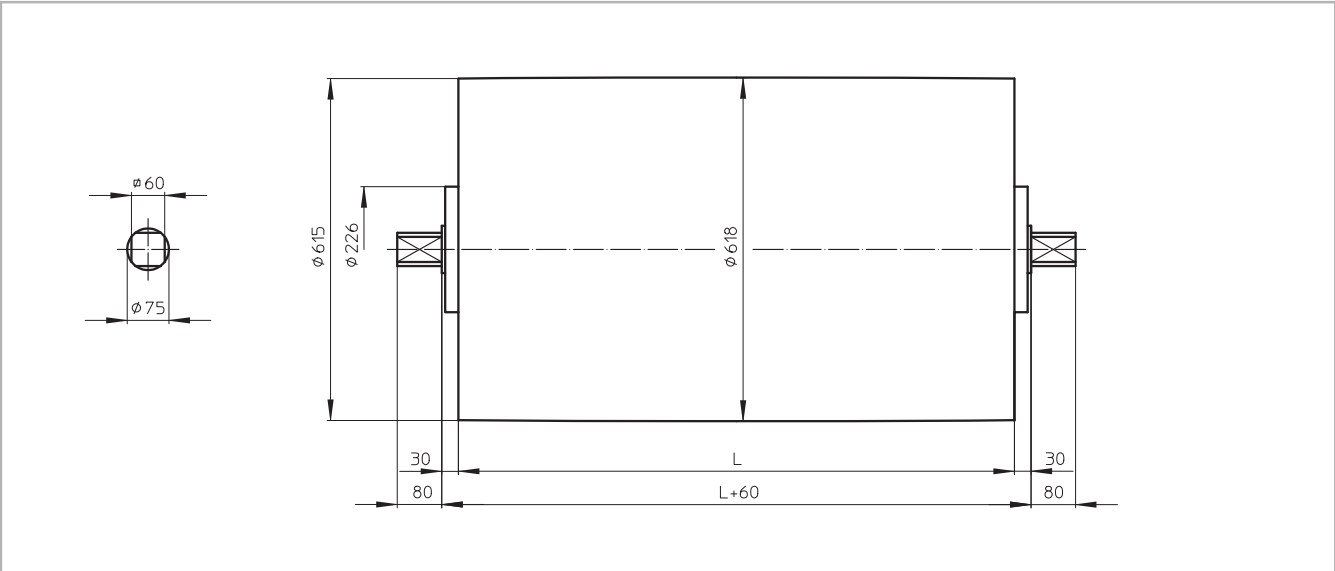
## TM 620A75

TM 620A75, mild steel drum motor with cast iron junction box



## KT 620A75

KT 620A75, mild steel tail drum

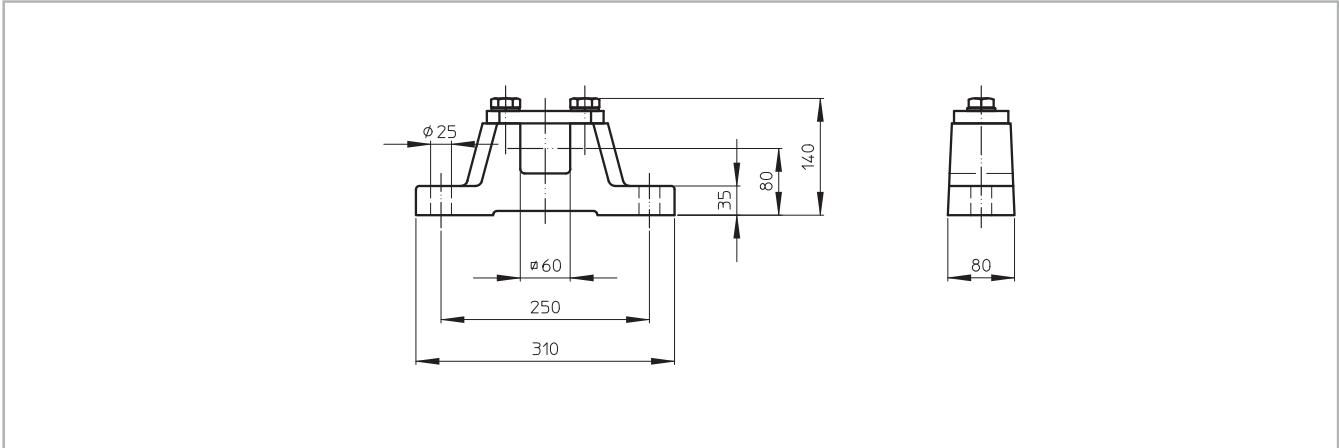




## Dimensions bracket / Cable exit

### AB 75

AB 75, cast iron or stainless steel bracket  
Weight: 22 kg per pair



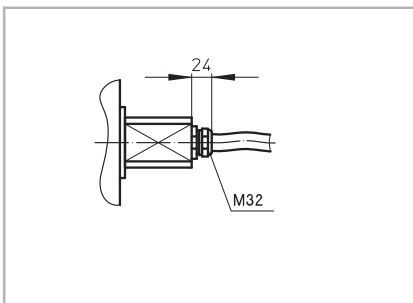
Standard design of a TM 620A75 is with a cast iron junctionbox. For stainless steel design, this can be either a cast iron PU coated or stainless steel junctionbox.

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.

The available cable exit is shown below.

### Option 1

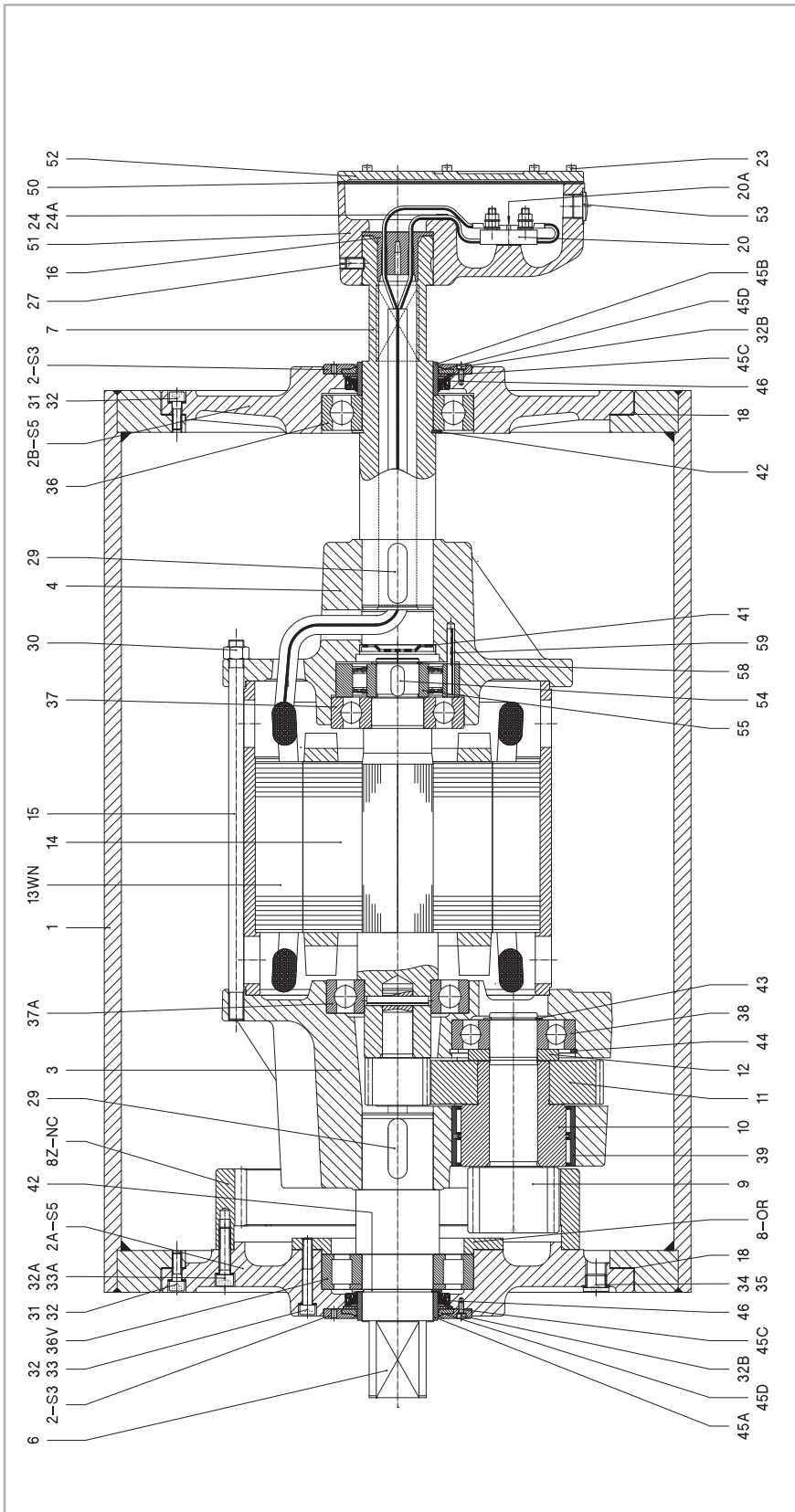
Straight cable exit with cable gland



# Cross sectional / parts description

TM 620A75 Z HDW

Legenda



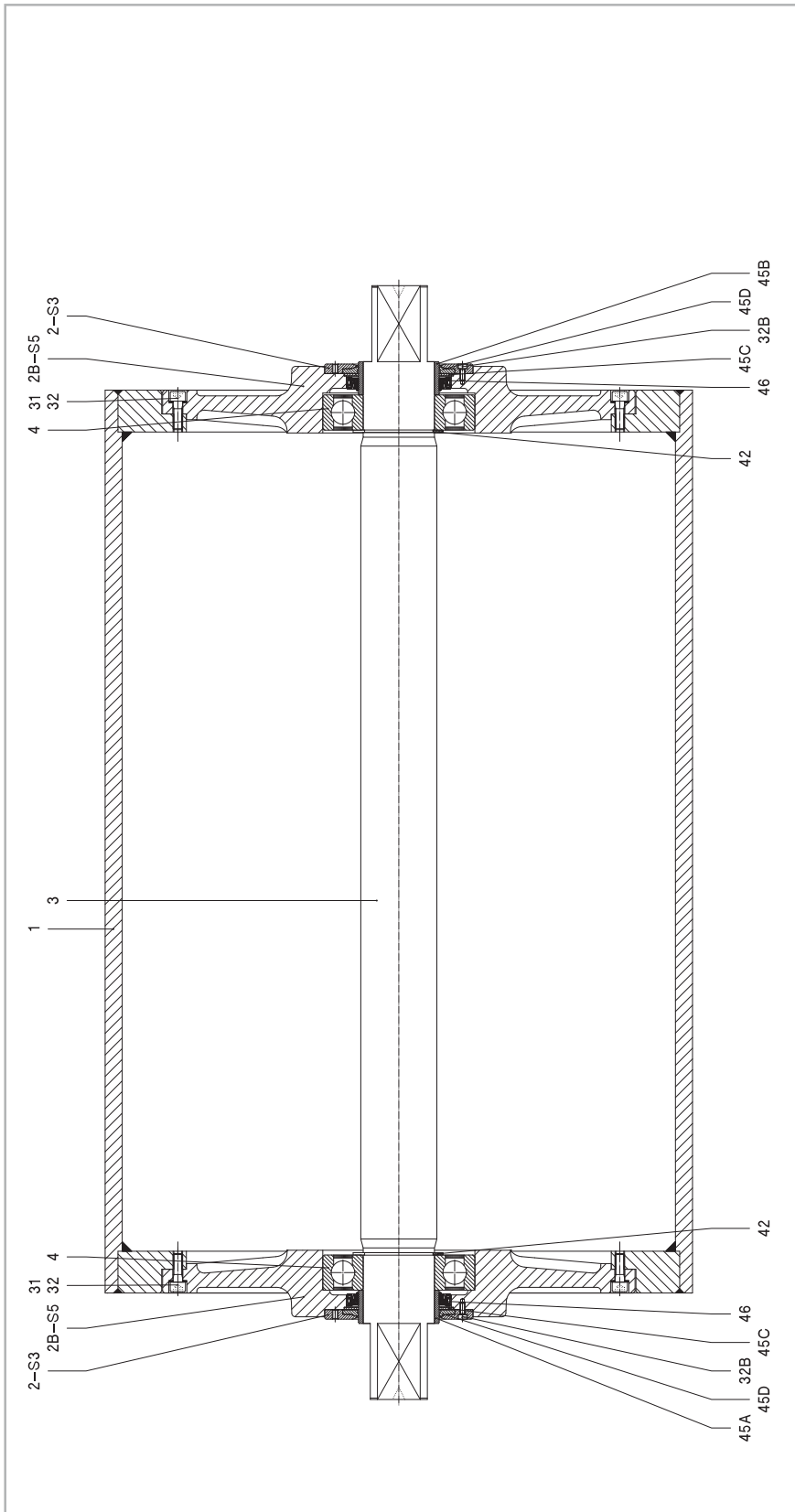
1	Shell	29	Key	37	Ballbearing	46	Cassette seal
2A-S5	Endflange	30	Nut	37A	Ballbearing	50	Seal
2B-S5	Endflange	31	Int. hex screw	38	Ballbearing	51	Junctionbox
2-S3	Endplate	32	Washer	39	Needlebearing	52	Junctionbox cover
3	Gearhousing	32A	Washer	41	Disc	53	Stopping plug
4	Motorflange	32B	Int. hex screw	42	Circlip	54	Key
6	Shaftend	33	Int. hex screw	43	Circlip	55	Backstop
7	Hollow shaft	33A	Int. hex screw	44	Circlip	57	Dataplate
8Z-NC	Internal gear	34	Fillerplug	45A	Bearing race	58	Circlip
8-OR	Locking ring	35	Washer	45B	Bearing race	59	Spiral pin
9/10	Pinion with bush	36	Ballbearing	45C	Support ring		
11	Gear	36V	Cyl. roller bearing	45D	Wiper		
		12	Distance ring				
		13WN	Stator				
		14	Rotor				
		15	Int. hex screw				
		16	Cable passage				
		18	Gasket				
		20	Terminalboard				
		20A	Cyl. head screw				
		23	Cyl. head screw				
		24	Cyl. head screw				
		24A	Toothed lock washer				
		27	Setscrew				
		3	Washer				
		4	Washer				
		6	Terminalboard				
		7	Int. hex screw				
		8Z-NC	Internal gear				
		8-OR	Locking ring				
		9/10	Pinion with bush				
		11	Gear				
		12	Distance ring				
		13WN	Stator				
		14	Rotor				
		15	Int. hex screw				
		16	Cable passage				
		18	Gasket				
		20	Terminalboard				
		20A	Cyl. head screw				
		23	Cyl. head screw				
		24	Cyl. head screw				
		24A	Toothed lock washer				
		27	Setscrew				
		29	Key				
		30	Nut				
		31	Int. hex screw				
		32	Washer				
		32A	Washer				
		32B	Int. hex screw				
		33	Int. hex screw				
		33A	Int. hex screw				
		34	Fillerplug				
		35	Washer				
		36	Ballbearing				
		36V	Cyl. roller bearing				
		37	Ballbearing				
		37A	Ballbearing				
		38	Ballbearing				
		39	Needlebearing				
		41	Disc				
		42	Circlip				
		43	Circlip				
		44	Circlip				
		45A	Bearing race				
		45B	Bearing race				
		45C	Support ring				
		45D	Wiper				
		46	Ballbearing				
		46	Ballbearing				
		51	Ballbearing				
		52	Needlebearing				
		53	Disc				
		54	Circlip				
		55	Circlip				
		57	Circlip				
		58	Bearing race				
		59	Bearing race				
		59	Support ring				
		59	Wiper				





KT 620A75 HDW

Legenda



- |       |                |     |                |
|-------|----------------|-----|----------------|
| 1     | Shell          | 32B | Int. hex screw |
| 2B-S5 | Endflange      | 42  | Circlip        |
| 2-S3  | Endplate       | 45B | Bearing race   |
| 3     | Shaft          | 45C | Shim plated    |
| 4     | Ballbearing    | 45D | Wiper          |
| 31    | Int. hex screw | 46  | Cassette seal  |
| 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.



## Options

### 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



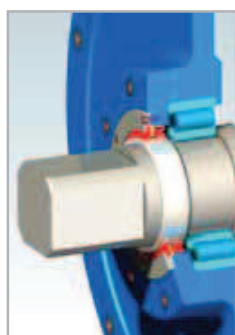
This sealing is specifically designed for those applications where high water pressure is used for cleaning.

HD sealing - IP 66

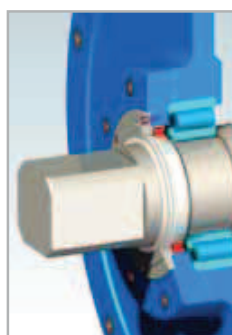


This sealing is designed for abrasive applications, like sand, gravel and soil.

HDW sealing - IP 66



HDLR sealing - IP 66



These sealings are designed for extreme abrasive conditions. Choice of seal depends on the material to be conveyed.

### 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	Cast iron PU coated or stainless steel
Cable		Shielded or non-shielded
Sealing mild steel	RB, HDW, HDLR	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	400/690 V - 50 Hz	Other voltages and frequencies on request
Twin drive (double power)		•
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 Drummotor		•
Encoder or sensor bearing in Taildrum		•
<b>Certificates</b>		
CE	•	
UL		•
CSA		•
ATEX zone 22, dust		•



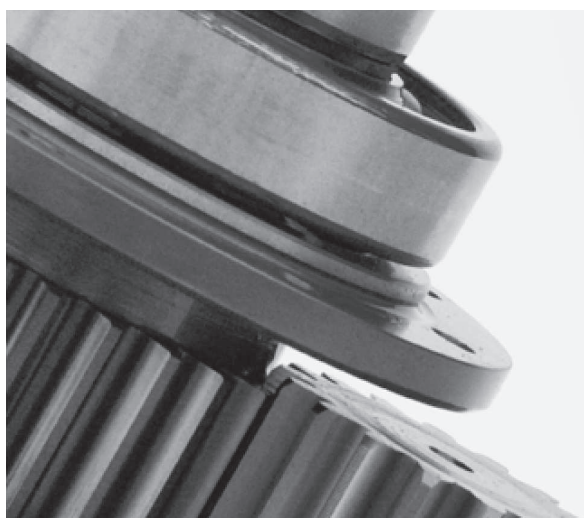
## Product range

### 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 400A50	TM 400.60	TM 500A60	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	0.17-5.00	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

