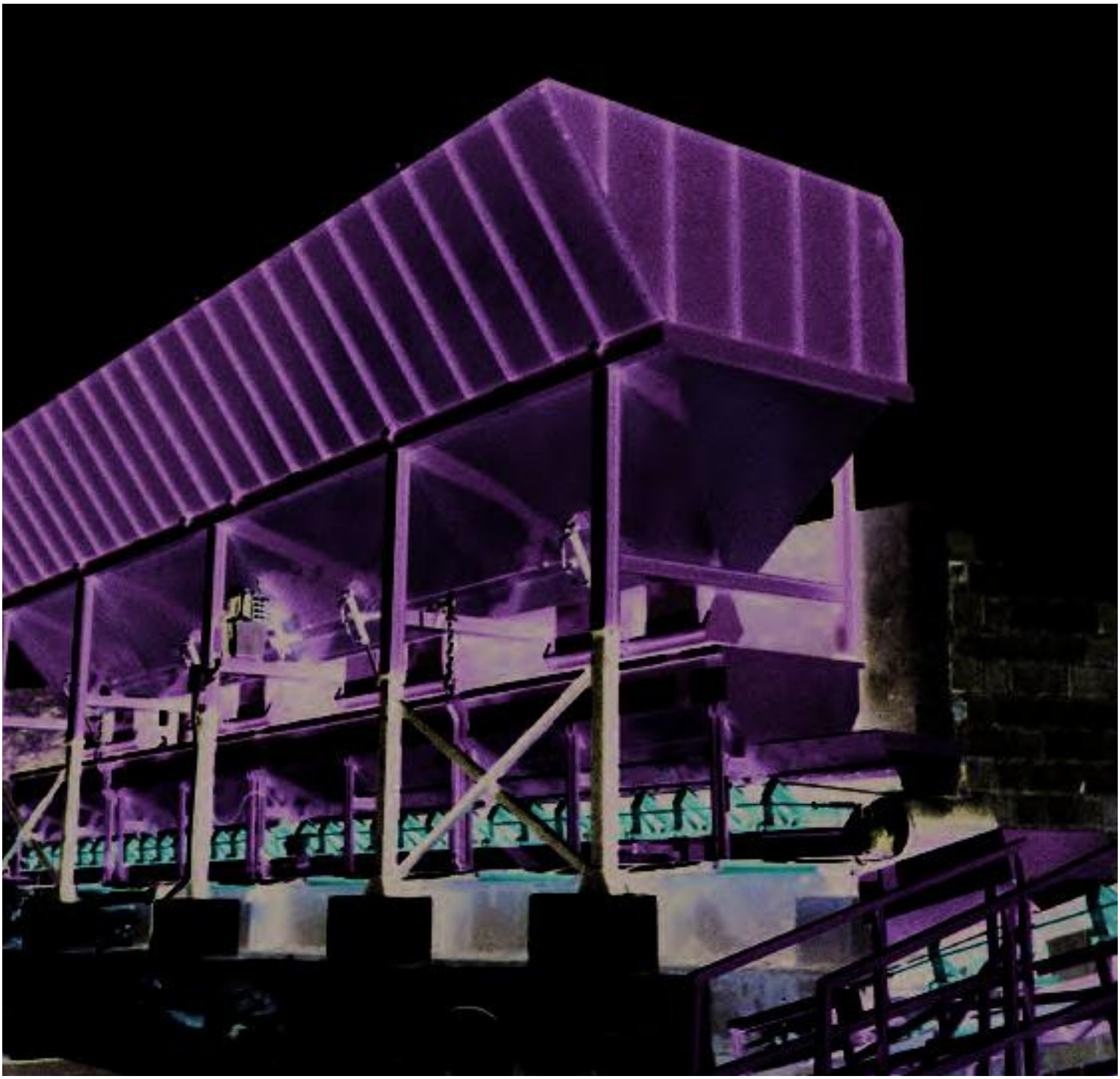
Product information

Drummotors

TM 215B50



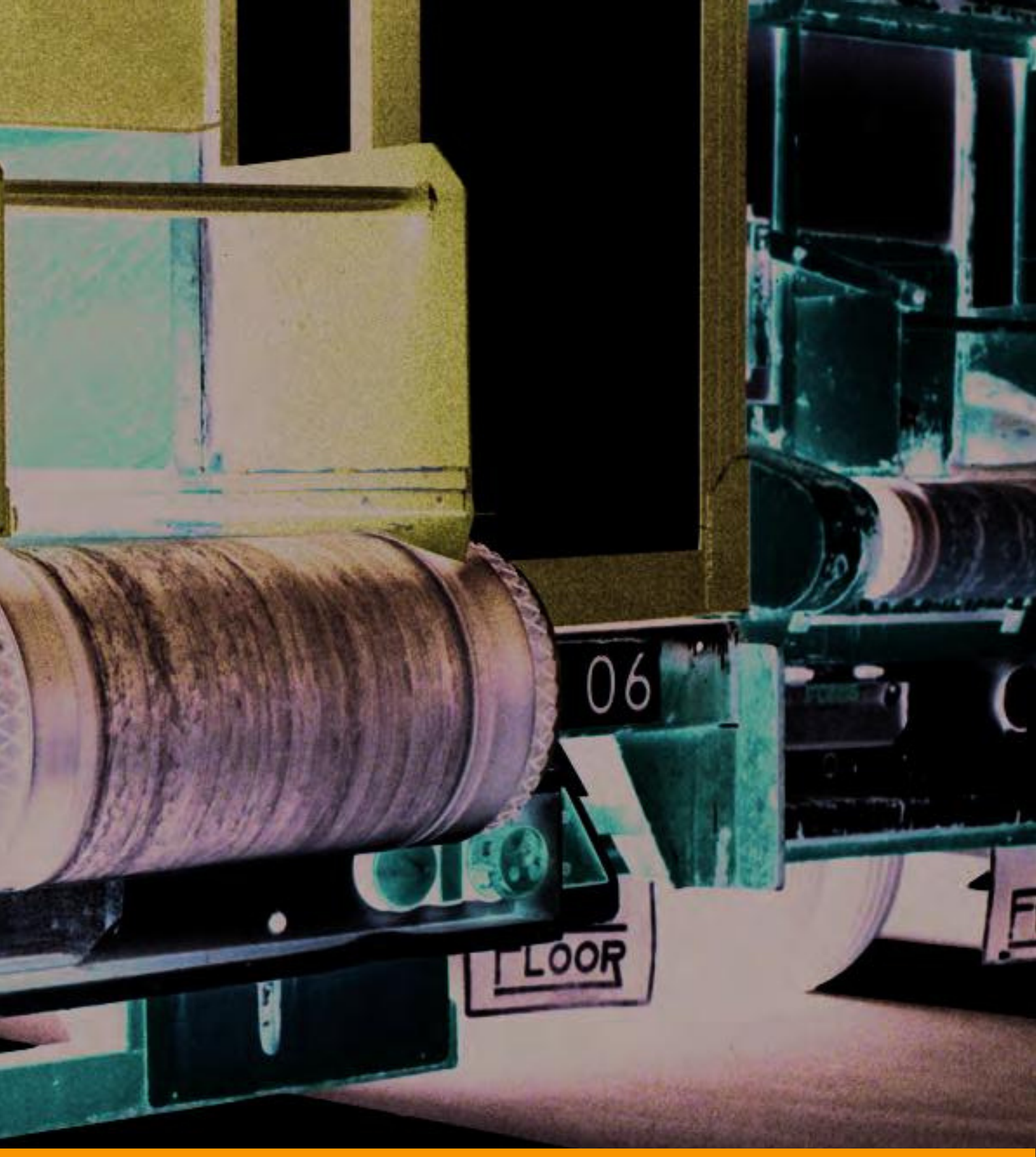
Van der Graaf

Power Transmission Equipment

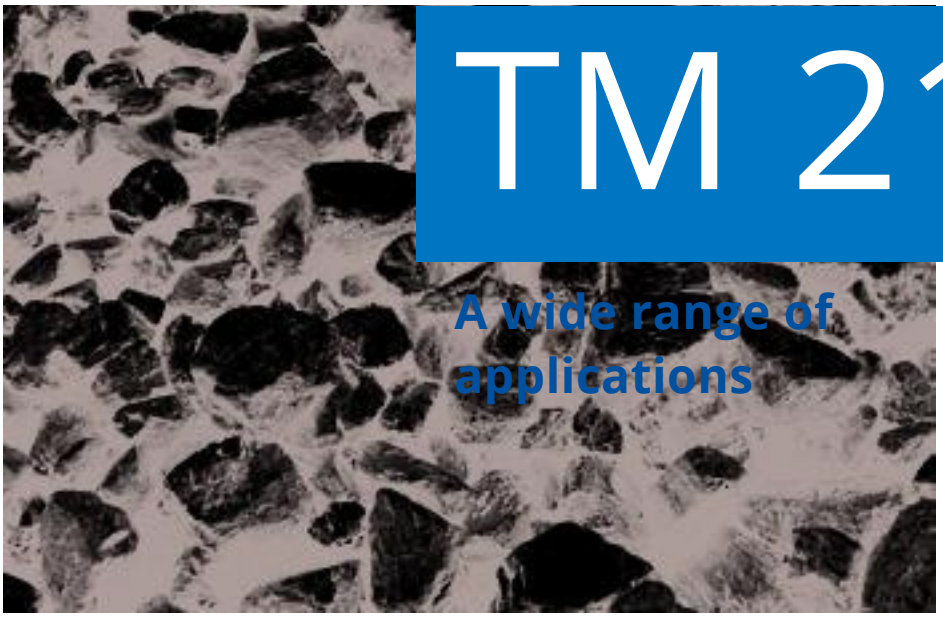
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The TM 215B50's



playground



TM 215B50

A wide range of applications

4 Introduction
5 Selection table
6 Selection table Dahlander motors
7 Dimensions Drummotor mild steel
Dimensions Taildrum mild steel
8 Dimensions bracket
9 Cable exit
10 Cross sectional / parts description
12 Options
15 Product range
16 Contact us

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 fl ow, tyre manufacturing, fi sh processing, poultry processing, meat processing, agriculture, fruit and vegetable, farming, forestry, baking, dairy and many more.

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Selection table

TYPE TM 215B50	Power kW	Beltspeed m/s at 50 Hz Beltpull N		Min. L mm Design B	Full load curr. 400 V - 50 Hz I = ... A	Weight kg L=500
455 PL2	**4,00**	**0,31** 11870	**0,28** 13140	600	8,8	117
440 PL2	**3,00**	**0,31** 8900	**0,28** 9855	600	6,6	117
630 PL2	**2,20**	**0,20** 10120	**0,18** 11240	600	5,5	117
620 PL2	**1,50**	**0,20** 6900	**0,18** 7665	600	3,7	117

Available standard facewidth's: 600 - 650 - 700 - 750 - 800 - 850 - 900 - 950 - 1000 mm
When an electro-mechanical brake is fitted, the minimum facewidth is increased by 100 mm
The total weight of a Drummotor grows approx. 5 kg per 100 mm
Available torque: (Beltpull N x drum diameter m) / 2 Nm

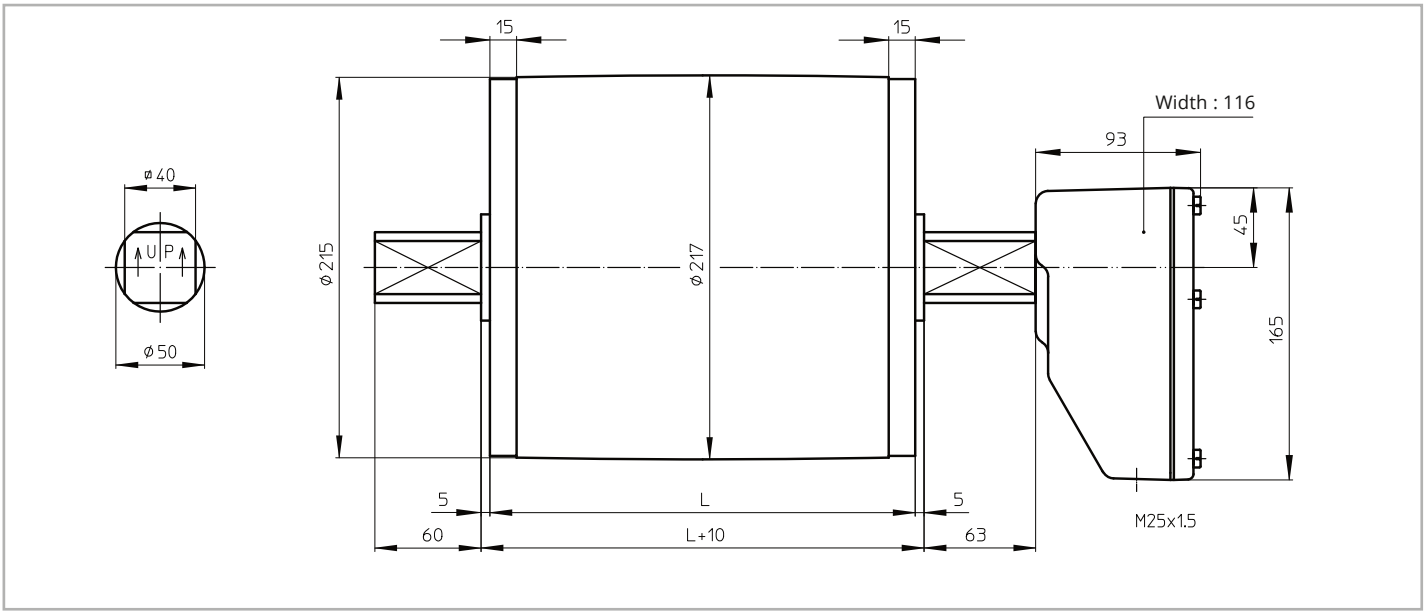
Selection table Dahlander motors

TYPE TM 215B50	Power kW	Beltspeed m/s at 50 Hz Beltpull N	Min. L mm Design B	Full load curr. 400 V - 50 Hz I = ... A	Weight kg L=600
430/240 PL2	**2,20/3,00**	**0,31/0,62** **0,28/0,56** 6530/4450 7230/4930	600	5,0/6,9	117
816/430 PL2	**1,20/2,20**	**0,15/0,30** **0,14/0,28** 7360/6745 7885/7230	600	3,8/4,3	117
810/420 PL2	**0,75/1,50**	**0,15/0,30** **0,14/0,28** 4600 4930	600	3,3/4,6	117

Available standard facewidth's: 600 - 650 - 700 - 750 - 800 - 850 - 900 - 950 - 1000 mm
When an electro-mechanical brake is fitted, the minimum facewidth is increased by 100 mm
The total weight of a Drummotor grows approx. 5 kg per 100 mm
Available torque: (Beltpull N x drum diameter m) / 2 Nm

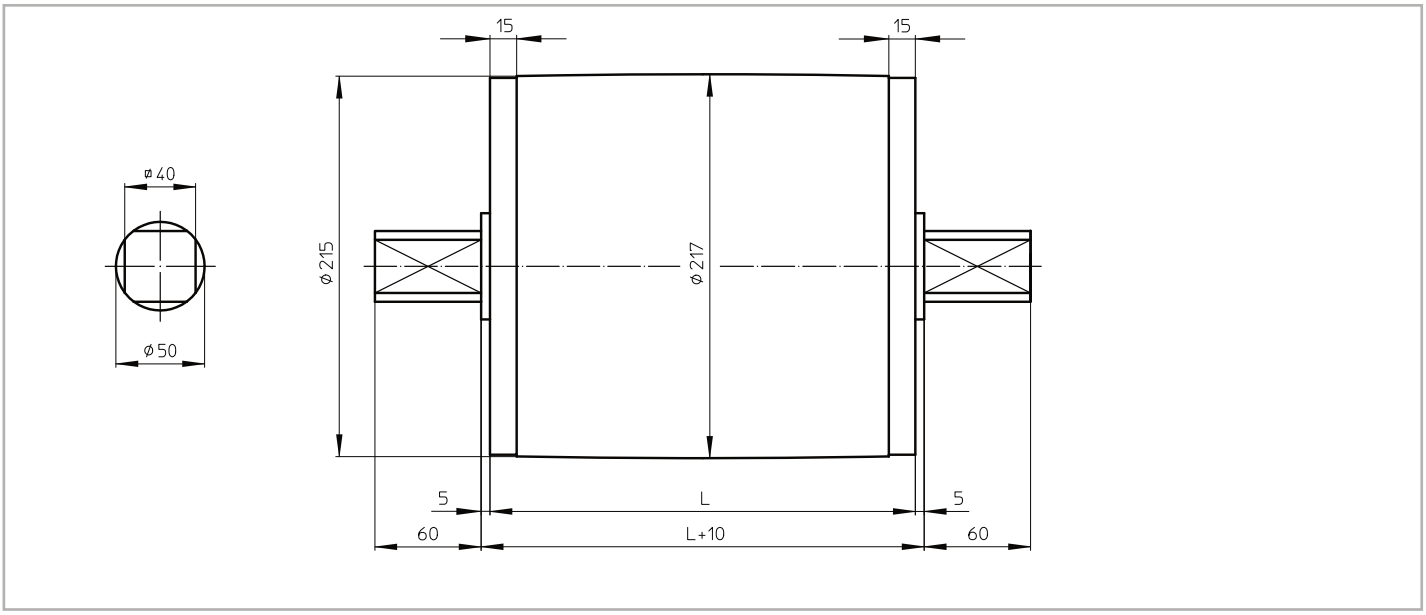
TM 215B50

TM 215B50, mild steel Drummotor with cast iron junctionbox



KT 215B50

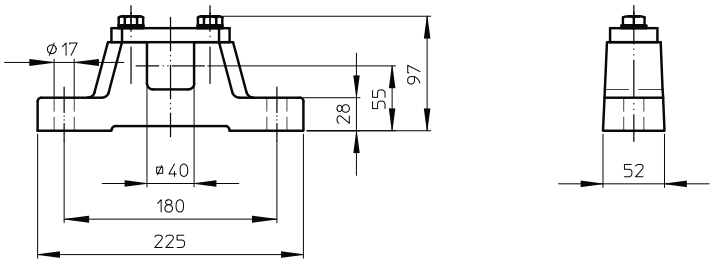
KT 215B50, mild steel Taildrum



Dimensions bracket

AB 50

AB 50, cast iron or stainless steel bracket Weight: 7,2 kg per pair



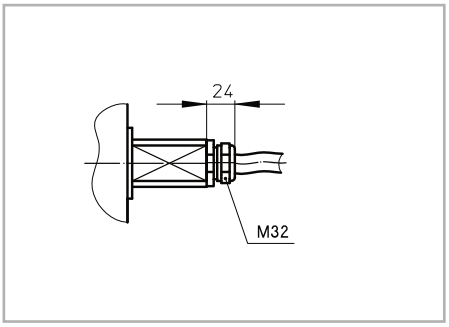
Cable exit

Standard design of a TM 215B50 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.

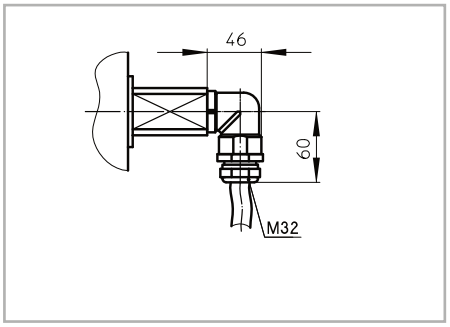
Option 1

Straight cable exit with cable gland



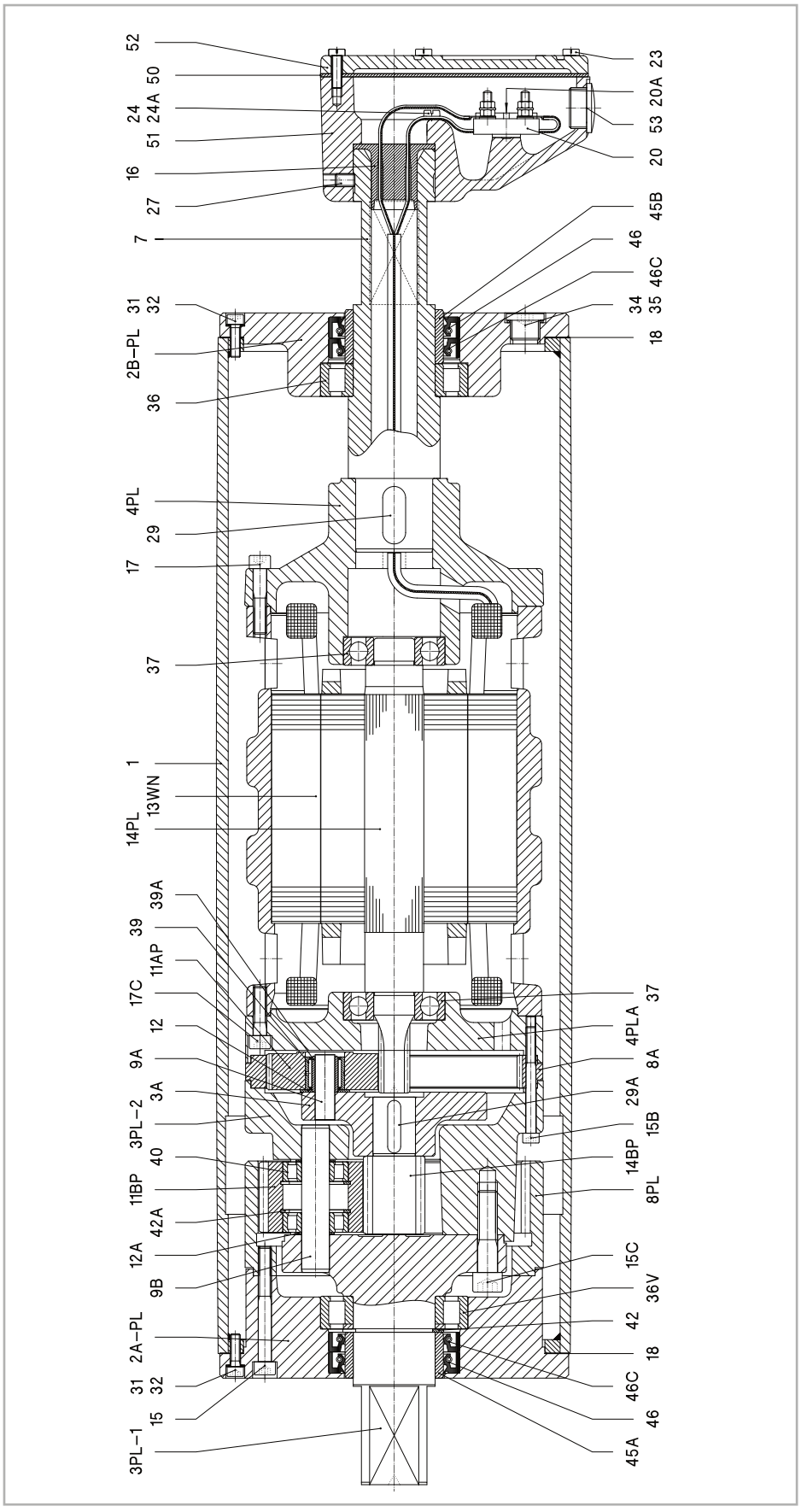
Option 3

Elbow cable exit with cable gland
(minimum facewidth increases with 50 mm)



Cross sectional / parts description

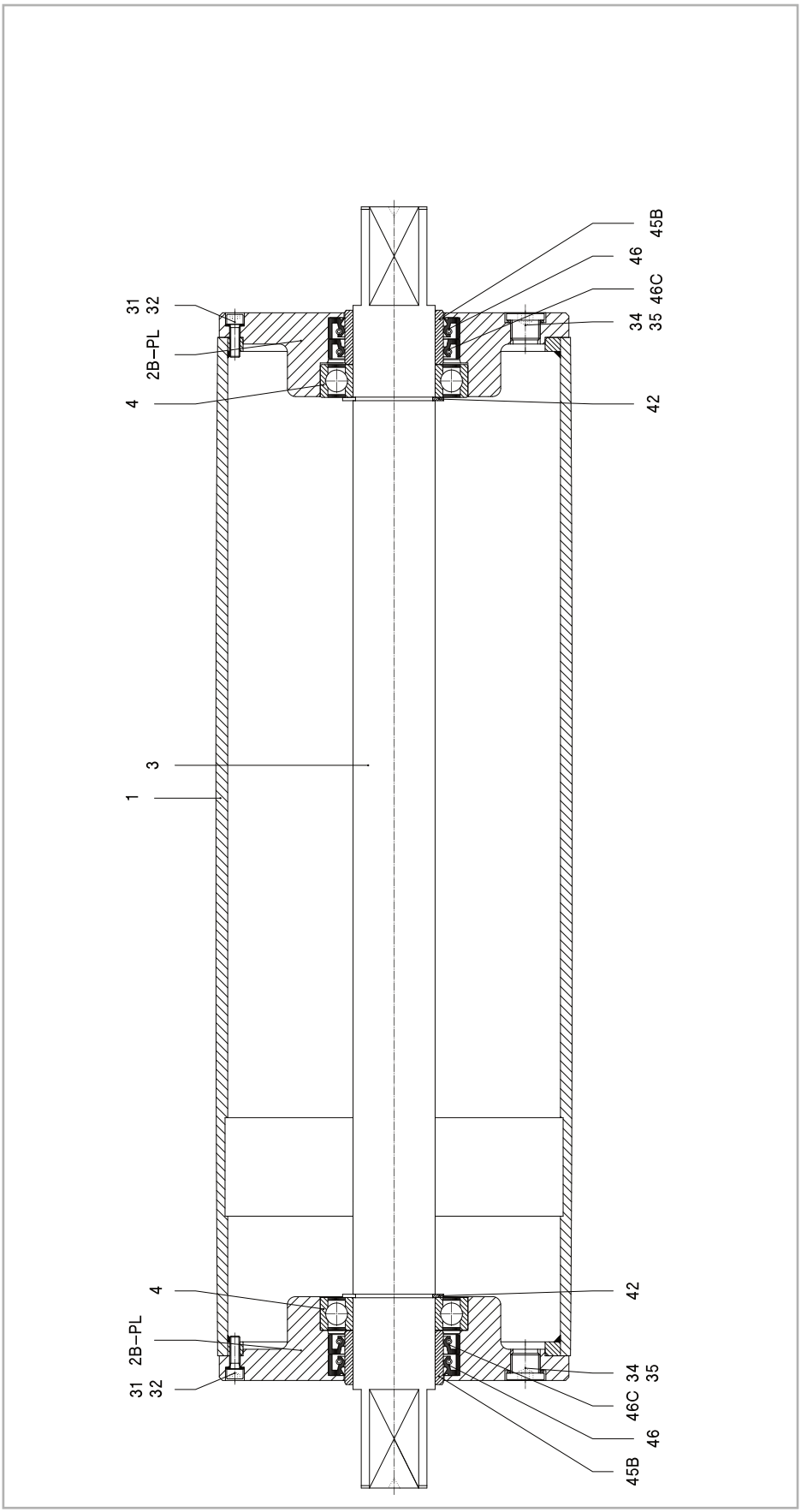
TM 215B50 PL2



Legenda

1 Shell
2A-PL Endflange
2B-PL Endflange
3A Planetary carrier
3PL-1 Connection shaft
3PL-2 Planetary housing
4PL Motorflange
4PLA Motorflange
7 Hollow shaft
8A Internal gear
8PL Internal gear
9A Cylindrical pin
9B Cylindrical pin
11AP Planetary gear
11BP Planetary gear
12 Shim
12A Shim
13WN Stator
14PL Rotor
14BP Sunwheel
15 Int. hex screw
15B Int. hex screw
15C Int. hex screw
16 Cable passage
17 Int. hex screw34 Fillerplug
17C Int. hex screw35 Washer
18 Gasket36 Cyl. roller bearing 20 Terminalboard36V Cyl. roller bearing 23 Cyl. head screw37 Ballbearing
24 Cyl. head screw39 Needlebearing
24A Toothed lock washer39A Innerring
27 Setscrew40 Cyl. roller bearing 29 Key42 Circlip
29A Key42A Circlip
31 Int. hex screw45A Bearing race
32 Washer45B Bearing race
46 Oilseal
46C Oilseal
50 Seal
51 Junctionbox
52 Junctionbox cover 53
Stopping plug
57 Dataplate

KT 215B50



Legenda

1 Shell
2B-PL Endflange
3 Shaft
4 Ballbearing
31 Int. hex screw
32 Washer
34 Fillerplug
35 Washer
42 Circlip
45B Bearing race
46 Oilseal
46C Oilseal

Options

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

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.

Options

Specification	Standard	Optional
Construction		
Shafts and bolts	Mild	Stainless steel
Endflanges	steel	Stainless steel
Shell	Cast iron	Stainless steel
Junctionbox	Mild steel	PU coated cast iron or stainless steel
Cable	Cast iron	Shielded or non-shielded
Sealing mild steel		RBS, HD
Sealing stainless steel	CR	
Shell		
Crowned	•	
Cylindrical		•
Balanced		•
Lagging, cold vulcanised		•
Lagging, hot vulcanised		•
Lagging, FDA approved		•
Fitted with grooves, patterns		•
Sprockets		•
Electro motor		
Three-phase asynchronous		
Power supply (P ≤ 3 kW)	•	
Power supply (P > 3 kW)	230/400 V - 50 Hz	Other voltages and frequencies on request
	400/690 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	•	
Other options		
Food grade oil		•
Backstop, mechanical		•
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		•
Certificates		
CE	•	
UL		•
CSA		•
ATEX zone 22, dust		•

Our products, an overview

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

Drummotor 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

Drummotor 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

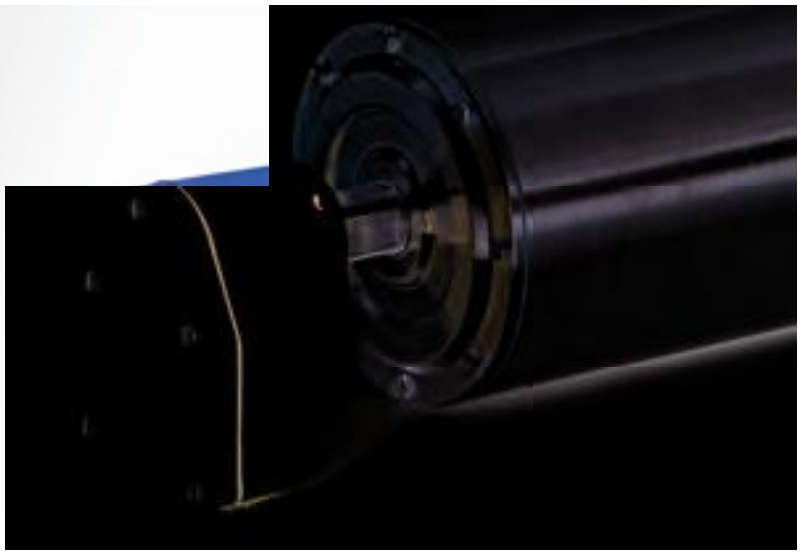


Design benefi ts

- Robust, industrial design
- Fully enclosed
- Oil fi lled
- 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

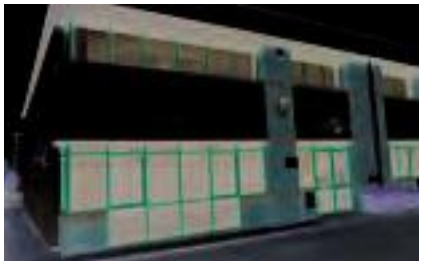
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