

# PMG40

## PIPELAYER

Cummins NT855-C280	169 kW /229hp
Max lifting capacity	40000 kg /89000lb
Operating weight	33000 kg /74000lb



# Pipelaying Equipment

## BOOM

Squared A-frame section boom built for adequate support for the most demanding lifting stress, quick release hinge pin for easy boom detachment and maintenance.

## COUNTER WEIGHT

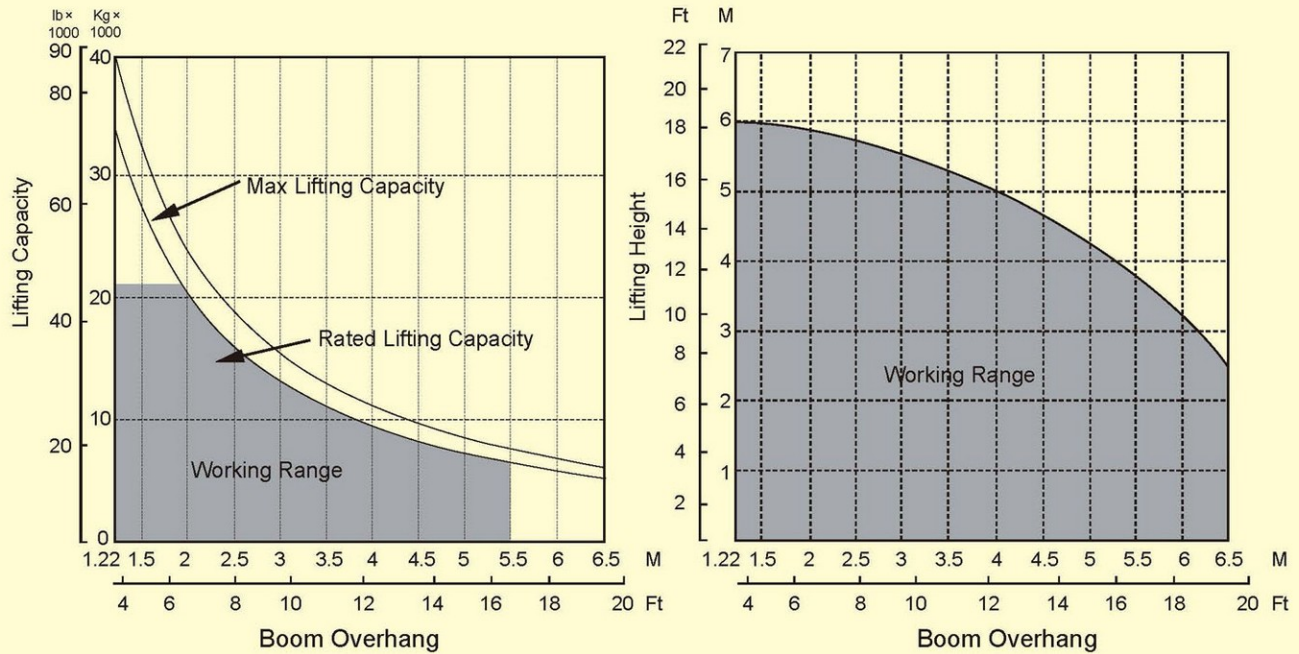
Hydraulically retracted and extended, four bar linkage structure counterweight adds more stability and balance during the lifting work, low compact design provides excellent right side visibility.

## UNDERCARRIAGE

With high stability and low ground pressure, the rigid and boxed frame undercarriage meet the requirement of all type of terrains, giving a dependable and longevity of service in all harsh conditions.



## PMG40 LOADING CHART



Boom overhang indicated in the table is the distance between hook center to same side track wheel outer edge.

The lifting capacity in the table includes hook weight

which is 2.5 t.

The lifting capacity of the equipment is the one when the equipment stop on the rigid level ground.

## BASIC MACHINE



### ENGINE

The Cummins, NT855-C280 direct injection and turbocharged engine gives sustained power and high torque rise that is required for the more tough jobs.

### BRAKING AND STEERING SYSTEM

Dual foot operated steering brakes with hydraulic booster to reduce operator's efforts. Brakes are spring applied and hydraulic released. Brakes and steering clutches are interconnected for easy steering. Hand levers are conveniently located on left side of the operator seat.

### TRAVEL SPEED

Gear	Forward	Reverse
1.....	3.8 KM/H.....	4.9 KM/H
2.....	6.8 KM/H.....	8.5 KM/H
3.....	11.8 KM/H.....	14.3 KM/H

## SAFETY DEVICES:



- **Free Fall System**

When the button is engaged, the load free-falls and then immediately stops when the button is released.

- **Automatic Boom Kick-Out**

This system will ensure you will never bend another boom.

- **Anti Two Block**

Sets a minimum distance between the top block and the hook block, preventing collisions between them.

- **Anti Tipping System**

Prevents tipping by calculating the maximum load that can be lifted.



### ELECTRONIC OVER HYDRAULIC

- Freefall system, boom kick-out system and anti-two block plus,
- Anti-tipping system  
Prevents tipping by calculating the maximum load that can be lifted.



## CONTROL

Hydraulic joystick operation provides simultaneous, precise control of the load and boom functions with one hand. single lever control for the counter weight in and out.

## CABIN

Good visibility to work area and top of the boom with a sky window on the roof, ROPS can be installed as the optional equipment.

## WINCHES

Two independently controlled hydraulic winches drive the boom and hook systems, brake are applied automatically when control lever returned to neutral position.

# GENERAL SPECIFICATIONS

## ENGINE

Type	Cummins
Model	NT855-C280
Rated power	169 kW
Rated speed	1800 rpm
Bore	139.7 mm
Stroke	152.4 mm
Displacement	14.1 l
Design	6-cylinder in-line
Electric system	24 V
Starter	11 kW / 15 hp
Batteries	2 x 120 ah / 12 V
Cooling system	Water and air combi radiator

## SERVICE CAPACITIES

Fuel tank	370 L
Crankcase and filter	45 L
Final drive (each side)	23 L
Cooling system	79 L
Hydraulic tank	310 L
Power train	122 L
Roller frames (each)	1.75 L

## UNDERCARRIAGE

Structure	Rigid one body welded frame
Shoe type	Super extreme
Width of standard shoes	660 mm
Number of shoes (each side)	41
Grouser height	72mm
Pitch	216 mm
Ground clearance	450 mm
Track gauge	2250 mm
Length of track on ground	3050 mm
Ground contact area with 860 mm shoes	3.72m <sup>2</sup>
Number of track rollers (each side)	7
Number of carrier rollers	2 per side
Ground pressure	85.2 Kpa

## WEIGHTS(APPROXIMATE)

Shipping weight (tractor)	26t
Boom	1.4t
Pipelayer attachment	0.62t
Cwt leaves	4.3t
Cwt frame & rack	2.68t
Total weight	35t

## TRANSMISSION

A planetary-type gearbox with oil operating, high capacity torque transmitting clutches provides three forward gears and three reverse ones with gear shifting under load. As per design the gearbox is connected with matching reducing gear and main drive forming a single power unit mounted in the rear axle case. A three-element one-stage torque converter with pumps drive reduction gear is connected with the gearbox by spline coupling and mounted on the front wall of the rear axle. Torque converter is connected with the engine through drive line and engine mounted elastic clutch.

## TRACTION FORCE

1f – drawbar pull	440 kN
2f – drawbar pull	230 kN

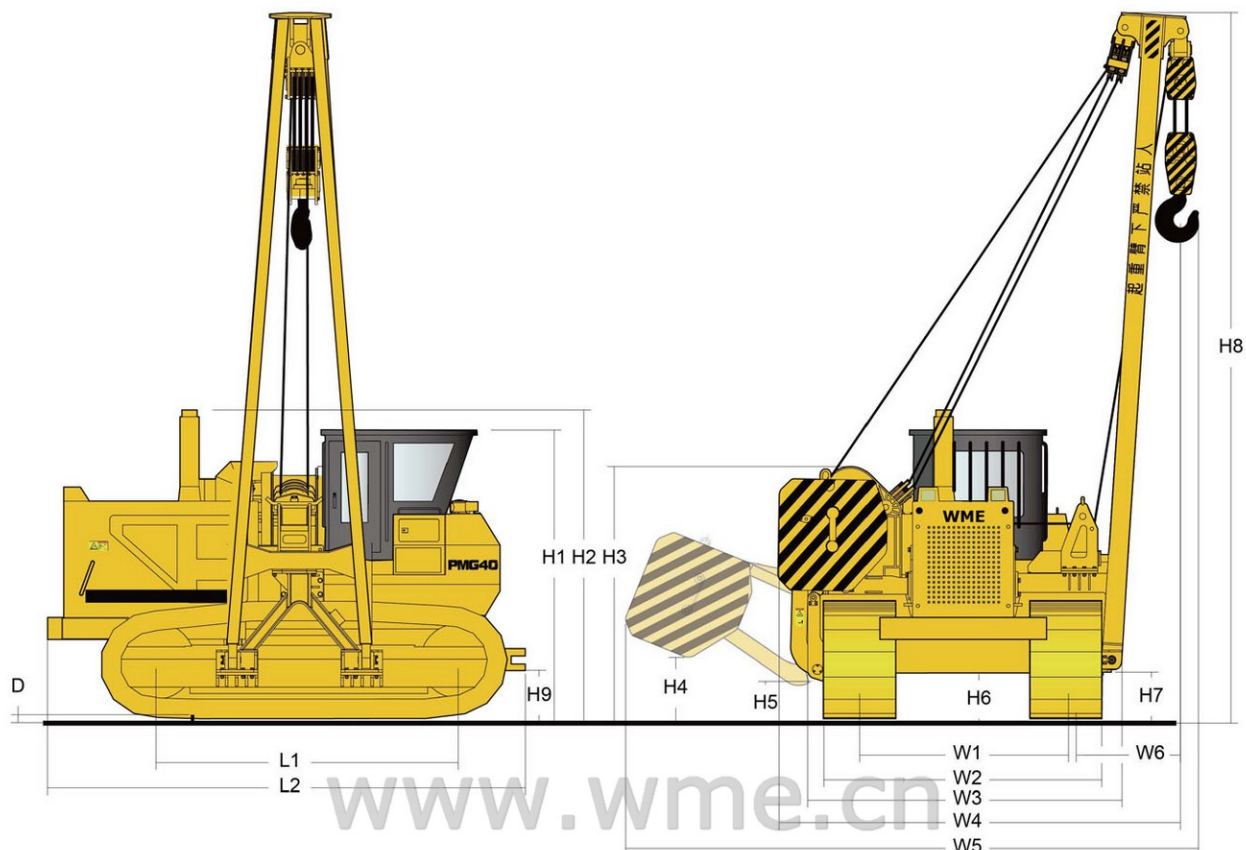
## HYDRAULIC SYSTEM

Pump type	gear-type, high pressure fixed displacement
Temperature	-40--+60
Pump output – max	210 L/min
Relief valve setting –counterweight	14000 Kpa
Relief valve setting –winches	20000 Kpa
Pump output –counterweight	120 L/min

## PIPELAYING EQUIPMENT

Planetary hydraulic winches		
Winch brakes	multiple-disk, hydraulic released	
	<b>HOOK</b>	<b>BOOM</b>
Drum diameter	380 mm	360 mm
Flange diameter	600 mm	510 mm
Drum length	320 mm	320 mm
Capacity	100 m(22 mm)	60 m(18mm)
Wire rope installed	60 m	60 m
Min breaking strength	322kN(22mm)	215kN(18mm)
Hook speed with 8 part line	7 m/min	
Luffing time	30 s (0-86)	
Boom – square section standard	7 m	
	bigger length boom available	
Removable counterweight	2 segments	

# OVERALL DIMENSIONS



W1 Track gauge	2250 mm	93.8 in
W2 Width to outside of track	2910 mm	127.6 in
W3 Shipping width(boom and counterweight removed)	3390 mm	138 in
W4 Width(counterweight retracted)	3620 mm	189.8 in
W5 Width(counterweight extended)	5090 mm	262.2 in
W6 Distance(outer edge of chain link to hook)	1122mm	49.2 in
D Grouser height	72 mm	3.1 in
L1 Length of tracks on ground(Distance idler/sprocket center)	3050 mm	142.5 in
L2 Operating length	5110 mm	221.7 in
H1 Height over cab	3300 mm	139.4 in
H2 Height (top of stack)	3331mm	146.1 in
H3 Height (top of winch)	2896mm	127 in
H4 Height to bottom of counterweight(extended)	790 mm	29.1 in
H5 Ground clearance of console	380 mm	17.8 in
H6 Ground clearance	450 mm	21.7 in
H7 Ground clearance of boom	472mm	20.7 in
H8 Total height	7300 mm	373.2 in
H9 Drawbar height	593mm	26 in

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## PIPELAYER

### STANDARD EQUIPMENT

#### Undercarriage

Suspended track frame,closed,non-oscillating type •  
Track chain,sealed with split master link,41 links •  
Track frame, rigid •  
Pivot shaft, separate •  
Sprocket segments, bolted •  
Track roller 9,each side •  
Carrier roller 2,each side •  
Idler 01, each side •  
Hydraulic track adjuster •  
Track and rollers lifespan lubricated •  
860 mm serviceable plate •  
Track guide centre part •  
Track guiding guard,front •

#### Power train

Cummins NT855-C280 engine •  
Antifreeze, -37 OC (-34 F) •  
Fan, suction •  
Water separator fuel system •  
Air cleaner, dry type w/exhaust •  
Aspirated primary and safety elements and service indicator •  
Fuel priming pump •  
Fuel tank and filter •  
Torque converter, single stage •  
Final drives, planetary type •  
Muffler •  
Radiator •  
Transmission, power shift •  
3 speed forward, 3 reverse •  
Parking brake, automatic •

#### Hydraulic system

Variable flow pump, load sensing •  
Pipe and valves •  
Hydraulic control counterweight •  
Hydraulic control winch and boom •

Free fall device •  
Control valve for 1 circuit •  
Hydraulic servo control •  
Hydraulic tank and oil level control •  
Oil filter with strainer in hydraulic tank •

#### Operator's cab

Cabin, isolation mounted, full vision  
With lockable door •  
Operator's seat, adjustable •  
Seat belt •  
Foot operator, inching break paddle •  
Dual steering control •  
Monitoring system/service indicator •  
Key, start •  
Fire extinguisher in cabin •  
Coat hook •  
Rear mirror, inside •  
Safety glass, tinted •  
Windshield wipers front, rear •  
Dome window •  
Control, single joystick •  
Safety lever •  
Emergency stop •

#### Electrical

Starter motor •  
Batteries, 2 units maintenance free •  
On-board system 24 V •  
Alternator 50 A •  
Back-up alarm, horn •  
Beacon •  
Working lights, front 2 ,rear 2 ,  
side 2 ,boom 1 ,winch, 1 •  
Dome light •  
Instrument warning lights •  
Battery charging •  
Hourmeter •  
Speed range •

Engine oil pressure •  
Water temperature •  
Fuel level •  
Parking brake •  
Hydraulic oil temperature •  
Pump replenishing pressure •  
Oil return filter •  
Air filter •  
Main warning light •

#### Pipe laying equipment

Boom welded type box-section structure •  
Boom kickout,uppermost position •  
Boom load limit sensor •  
Counterweight,adjustable,hydraulically controlled,4-block and 2-counterweight frames •  
Hydraulic draw works with independent driver motors for boom and hook winches •  
Brakes ,wet multiple disc,closed type,spring applied and hydraulically released •  
Blocks and hook with latch •  
Ropes •

#### Basic machine

Bumper front •  
Towing lug front •  
Towing hitch rear •  
Battery compartment, lockable •  
Refuelling pump, electric •  
Belly pans, heavy-duty,hinged •  
Radiator, wide-meshed •  
Engine cover, perforated •  
Engine doors, perforated •  
Engine doors, hinged, lockable •  
Lugs for crane lifting •  
Toolkit •  
Exhaust pipe,insulated •

### OPTIONAL EQUIPMENT

Air conditioner  
Arctic package

Rear winch for pulling  
ROPS or FOPS

Lengthened boom.  
Enlarged radiator