CIMOLAI Technology spa
Special Equipment

Mobile Straddle Transporter
MST 20

MAIN CHARACTERISTICS

Lifting Capacity	20	ton
Clear inner width	3590	mm
Track	4100	mm
Outer width (at the base)	5150	mm
Height under upper transversal beam	5210	mm
Max height (approx.)	5800	mm
Gauge	4700	mm
Maximum length (at the base)	6050	mm
Estimated weight (without load)	14	ton
Ref. drawing	*ST.1781.00.1.MST*	

HOISTING

Cylinders synchronized and independent	N° 2
Number of lifting point	N° 2 (2x10 ton)
Lifting travel	1800 mm
Lifting speed - machine laden	0÷3,5 m/min
Lifting speed - machine unladen	0÷7,0 m/min
Flash-light + mushroom button	Included on each wheel group

TRAVELLING

Motorized wheels	N° 2 out of 4
Drive type	Closed loop
Steering wheels	N° 4
Advanced electronic steering system controlled by position sensors and assisted by a PLC microprocessor. The six different steering options are shown in the reference drawing ST.1781.00.1.MST.	
Travelling speed - machine laden	0÷60 m/min variable
Travelling speed - machine unladen	0÷120 m/min variable
Tires (OTR brand new)	N° 4 size 32X12.5-15
Tires pressure	10 bar (Kg/cm²)
Affordable slope	3%

THERMIC UNIT AND COMMANDS

Sound proofed thermic unit with large inspection doors on the front and rear part	Included
Diesel engine – water cooled – IVECO FTP model F32MNS – power at 2200rpm – antipollution norm Tier 3 / EU stage IIIA	55 kW (74,8 Hp)
Variable cubic capacity hydraulic pumps	with pistons
Fuel tank capacity	80 l
Oil tank capacity	120 l
N° 4 led light lamps for night shift-work	Included
Remote control + emergency button strip + emergency proportional hydraulic distributors	Included
Flash-lights + mushroom button	Included on each wheel

Remote control (electric) with electro-proportional commands

Emergency push button pendant (electric) on board of the machine

Emergency proportional hydraulic distributor (manual)

Contact us:
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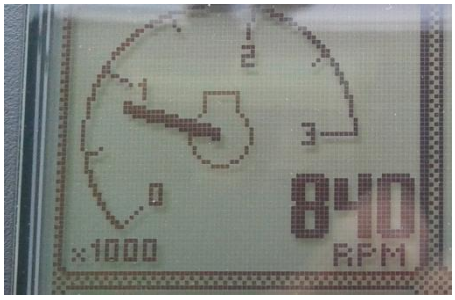
SGS Cert. n° IT05/0867 · SGS Cert. n° IT14/1018 · SGS Cert. n° IT14/1027 · SOA Nord Alpi Organismo di Attestazione Cert. n° 13432/16/00 & 13433/16/00 · UL US Cert. n° E308474

The machine is studied to be in conditions to work in a couple with a second unit so as to handle and transport wind blades as shown in the scheme below:

While the two mobile straddle carriers work in a couple, there will be an operator for each machine. The operators will be assisted by a control system that supervises the RPM of the diesel motors of the two straddle carriers. The operators will have to make the machines travel at approx. the same speed checking the RMP of their machine from a dedicated display and remaining in contact with the other operator during all the handling and transport phases so as to coordinate the two straddle carriers.



CORROSION PROTECTION

The painting cycle that will be applied is the following:

- Sand-blasting: as per degree SA 2.5 of the Swedish standards
- Epoxy paint coat – total thickness of the dry film: 100 µm
- Finishing enamel – total thickness of the dry film: 60 µm

The total thickness of the dry film will be 160 µm.The cycle complies with the standards ISO 12944-5.
Average class of atmospheric corrosion C3 M.
Standard colour will be yellow RAL 1006

DESIGN STANDARDS

▪ Structures	:	FEM 1.001 ed. 1987 and 1998	Class A3
▪ Mechanisms	:	FEM 1.001 ed. 1987 and 1998	Class M4
▪ Electric installation	:	CEI-EN-60204-1 – ed. April 1998 and May 2001	
▪ Safety	:	The machine we are proposing will comply with the terms and provisions of the EEC Directive 2006/95/CE and will be ***marked "CE".***	

TESTS WITH STATIC OVERLOAD (AT JOBSITE)

The factor for the static load test corresponds to 1,25 (1,25*20=25 ton) of the rated load.

TESTS WITH DYNAMIC OVERLOAD (AT JOBSITE)

The factor for the dynamic load test corresponds to 1,1 (1,1*20=22 ton) of the rated load.

The brands of the main components are the following:

♦ Pumps and hydraulic motors	brand	:	BOSCH -REXROTH (Germany) – SAUER (USA)
♦ Proportional hydraulic distributor	brand	:	DANFOSS (Denmark)
♦ Mechanic coupler	brand	:	TECHNODRIVE (Germany)
♦ Epicyclical reducers on the lifting winches	brand	:	BOSCH -REXROTH (Germany)
♦ Wheel drives	brand	:	BOSCH -REXROTH (Germany)
♦ Cylinders	brand	:	CIMOLAI TECHNOLOGY (Italy)
♦ Slew drives for steering	brand	:	IMO (Germany)
♦ Tyres	brand	:	OTR brand new (MRF, MAITECH or equivalent)
♦ Lifting ropes	brand	:	TREFILEUROPE (France)

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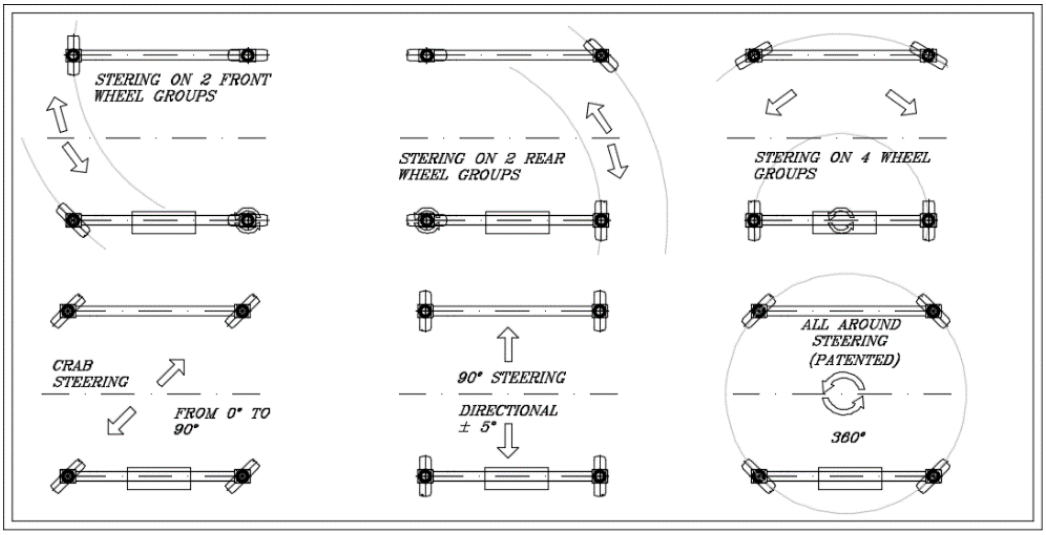
- Electric components — brand : OMRON (Japan) - TELEMECANIQUE (France) SIEMENS (Germany) - SCHNEIDER (France)
- Limit switch — brand : STROMAG (Germany)
- Remote Control — brand : AUTEC (Italy)
- Steel structures - manufacturing — brand : ARMANDO CIMOLAI CENTRO SERVIZI (Italy)
- Diesel Motor — brand : IVECO FTP (Italy)

ELECTRONIC STEERING SYSTEM

The rotation of the 4 wheels is achieved by special powered slew drives (brand IMO - Germany) sized to support the various stresses along both the longitudinal and the horizontal direction. The steering is controlled by a position sensor connected to the PLC microprocessor that automatically commands the various steering degrees, always guaranteeing the most suitable working conditions and avoiding every possible sideslip. The steering possibilities are shown below.



Moreover, the electronic steering comes with an additional tele-control and remote supervision system. It consists of a GSM line (or Wi-Fi) that makes it possible to supervise the machine status from a work-station installed in our offices.
In turn, it will be possible for us to verify the equipment operational status in real time and immediately assist your operators if the machine should fail.

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OPTION

HATZ engine (standards: TIER 4 FINAL - stage IIIB – model 4H50TIC), power at 51,3 KW (70 Hp)

SERVICE AND ASSISTANCE

Operators training:

Users will be provided with all the knowledge they need to operate the machine safely and efficiently. Beside the standard "Start-Up" and "Shut-Down" procedures, the training aims to walk operators through a step by step familiarization process so that they become comfortable with the provided equipment.

Maintenance training:

A thorough learning program will cover every maintenance activity that can be done by the end user. Operators will be instructed to perform routine checks (hydraulic and electrical), fault diagnosis, replacement of parts and components.

Training will be done by technicians who will be fluent in English.

ABOUT US

Cimolai Technology dates back to 2004 as the result of an initiative of the Cimolai family and the collaboration of a group of technicians with a consolidated experience in design and supply of special lifting equipment.

To give life to such important expectations, Cimolai Technology always offer its maximum collaboration to the customer, so as to take the best solutions from the first phase of the design and transform them in tailor-made realizations.

The effectiveness of the above project is evidenced by the welcome Cimolai Technology products receive by the main contractors of worldwide markets, the manufacture and refit bigger shipyards and other international realities.

Cimolai Technology is located in a recently manufactured premise, which covers a total area of 53.000 m2 - 20.000 m2 of which are completely covered and used as manufacture premises and offices.
The company is provided with all the services required by a dynamic and always growing organization and is located in Carmignano di Brenta, in Padova district.
All the steel structures are manufactured in our workshop in San Quirino, Pordenone district.

Premises in Carmignano di Brenta / PD - Italy

Premises in San Quirino / PN - Italy

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