

E+M

UNIVERSAL DRILLING UH4

Fully hydraulic universal drilling rigs
for all drilling methods



Hook load **500 kN**
Torque **51.000 Nm**

E+M DRILLING TECHNOLOGIES GMBH

Tradition - Quality - Innovation - Partnership - Worldwide



E+M



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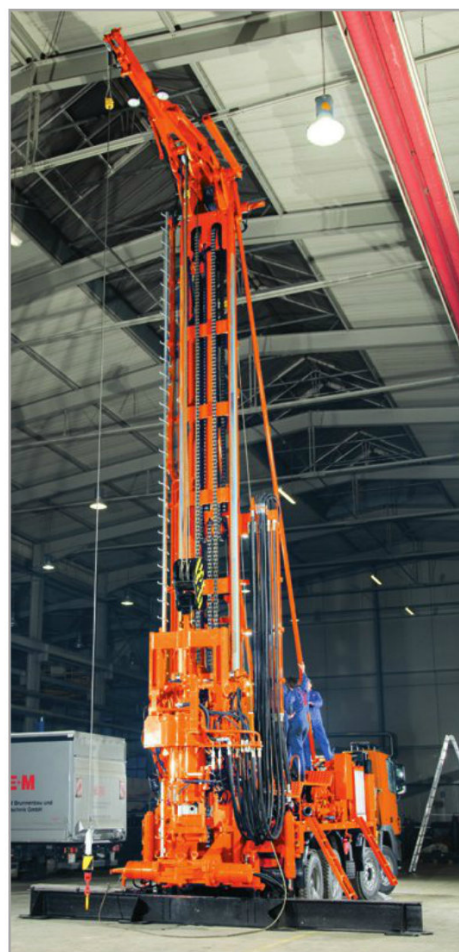


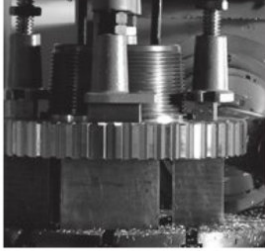


E+M - THE LONG-ESTABLISHED COMPANY. HIGHEST DEMANDS FOR HIGHEST QUALITY.

From the start, our company, which has been established in 1919, has manufactured their own drilling equipment. Since decades, the construction and manufacture of our drilling systems has been influenced by the new and practical experiences which we were able to make.

Numerous national and international drilling companies, which are working with systems and equipment made by E+M, benefit from this as well.





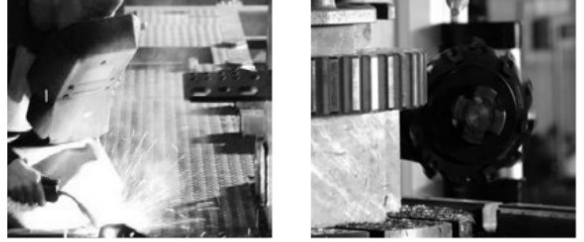
THE E+M CONTROL PANEL: FULL CONTROL FOR PRECISE WORKING.

The E+M control panel:

With all control elements and indicators which are necessary for the control of the plant. Here, the operator is able to centrally control all functions of his drilling system. The ergonomic arrangement of the control devices and indicators is field-tested and has proved itself time and again.

If various E+M drilling systems are used in one plant, the operator is able to immediately orient himself regarding all E+M models, since the arrangement is always the same.



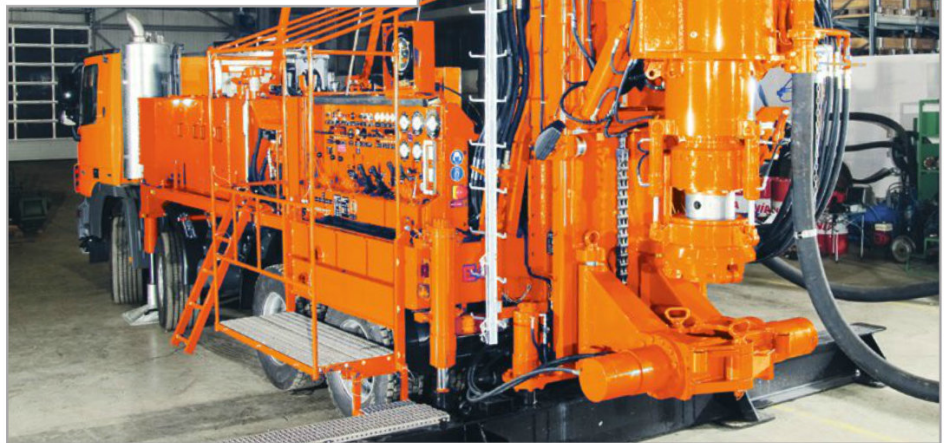


THE E+M TOP DRIVES. FULLY HYDRAULIC MANIPULATORS. HIGH PERFORMANCE IN ALL DEGREES OF FREEDOM.

The rotary speeds and torques are hydraulically adjustable. The clearance of up to 140 mm in the top drive allows for direct and indirect flush drilling.

The feed slide with the top drive can be driven by means of the hydraulic cylinder of the drilling line winch. An unwinding feed unit for the drilling with a drilling line winch is installed.

- 1) Swivel the top drive sideways to allow for the free access of the drilling line to the drill hole (pipe installation).
- 2) Hydraulic clamp head on top drive with quickly exchangeable clamping jaws.



| | |
|------------------------|------------------------------|
| Revolutions per minute | max. 367 min ⁻¹ |
| Torque | max. 30.000 / max. 51.000 Nm |
| Stroke | 7.600 mm |





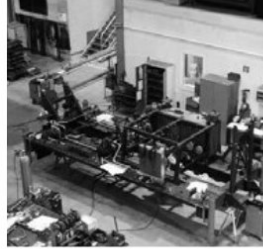
E+M

HYDRAULICS UP TO THE TOP OF THE DRILLING MAST. ALSO WITH MAST EXTENSION.

Only one single diesel motor, the motor of the vehicle, provides the required drive power for the performance-optimized hydraulic systems produced by the E+M drillings rigs. However, optional compressors or generators which are mounted on the E+M drilling rigs can be equipped with an individual diesel drive motor, which is functionally independent of the hydraulics.

- 1) With mounted mast extension:
Erection of the boom, locking of the boom, retraction/extension of the sliding element, completely hydraulically controlled.



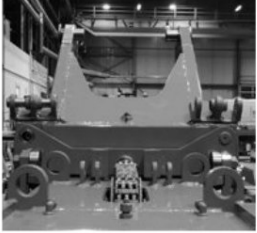


THE E+M DRILLING SYSTEMS: SELF-SUFFICIENT. WITH MUD PUMPS, WITH COMPRESSORS, WITH GENERATORS.

The development, construction, manufacture and assembly are continually influenced by the individual experiences which are made during the drilling process. Therefore, every new drilling system has a finish of master's touch in all phases of the assembly. During the drilling operations, those details are of the assembly. During the drilling operations, those details are of major importance - executed with common diligence and experience.

All installed components, which are compactly packed, support the various requirements of the diverse drilling tasks.





E+M insight





Drilling Accessories



Three-legged trestle with striking mechanism and winch for the education of well borers in Rostrup (Bau ABC)



Halogen lights



Heating jacket for piston pump



Discharge hose, freely suspended



Central lubrication unit



Compressors / Generators



Rod clamp / Casing clamp



Weather-proof housing



Rod bell



Oscillating tubing machine up to Ø 832 mm



Tension meter



Recording instrument for tension meter



Auxiliary heating



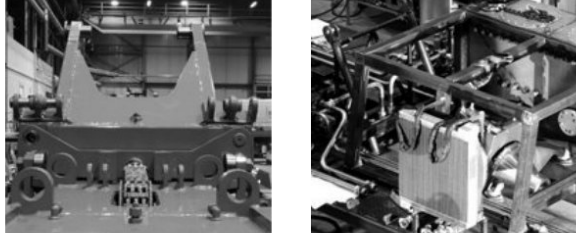
Casing rotator up to Ø 445 mm



Striking mechanism



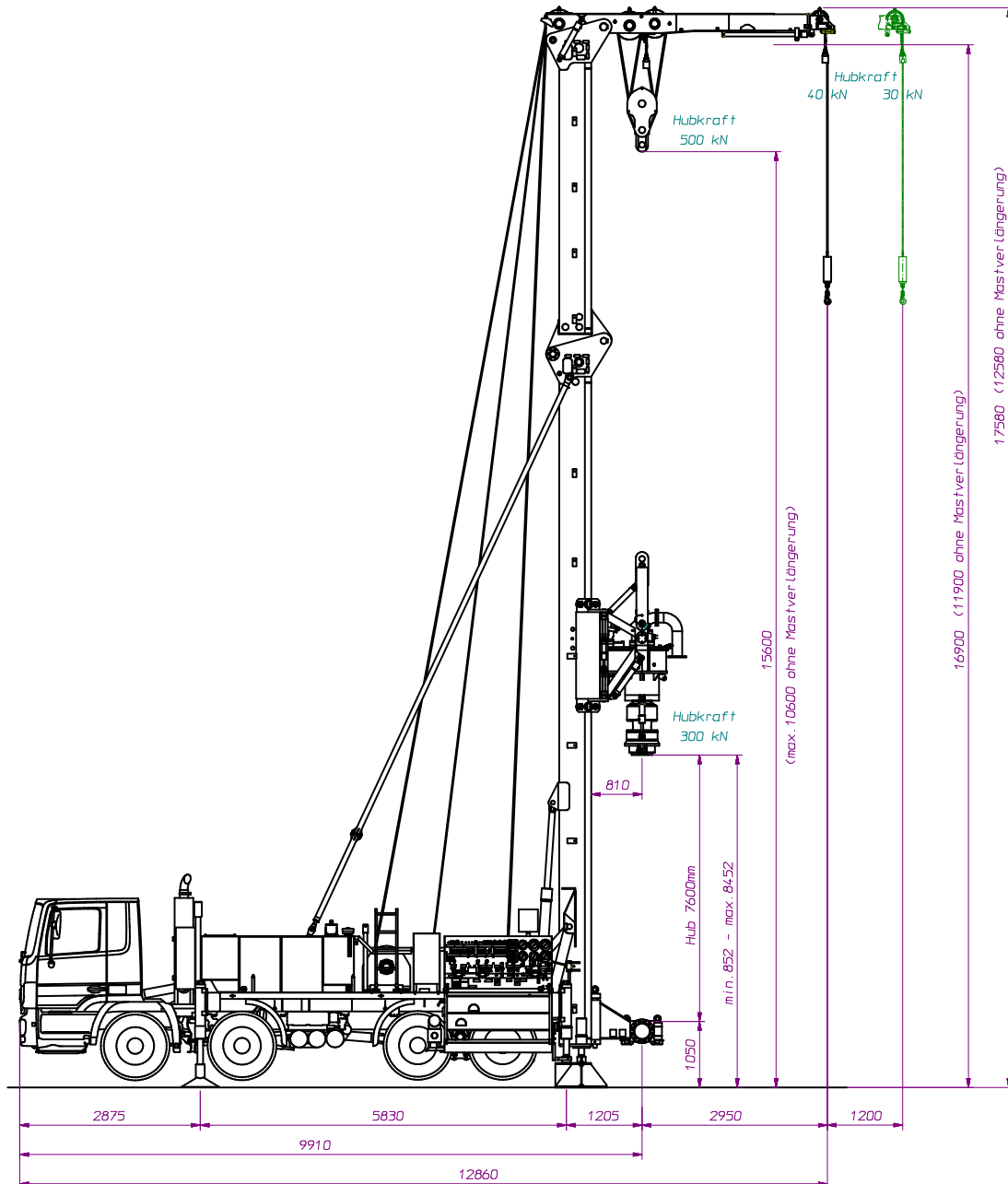
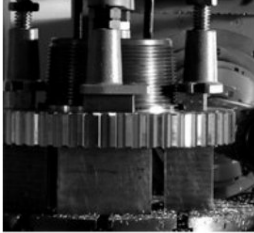
Centrifugal pump



OVERVIEW - TECHNICAL DATA

| Construction series | | UH2 | UH3 | UH4 |
|--|------------------------|------------------------------------|-------------------|-------------------|
| Derrick with hydraulic feeding unit | | | | |
| Free mast height max. | [mm] | 11.770 | 11.600 | 11.900 |
| Top drive stroke max. | [mm] | 8.000 | 7.600 | 7.600 |
| Pressing force max. | [kN] | 50 | 75 | 80 |
| Traction force max. | [kN] | 110 | 150 | 200 |
| Hook load max. | [kN] | 240 | 320 | 500 |
| Mast extension max. | [mm] | - | 3.000 | 5.000 |
| Auxiliary extension | | | | |
| Displacement path max. | [mm] | 1.200 | 1.200 | 1.200 |
| Load max. | [kN] | 20 | 50 | 40 |
| Top drive / power swivel | | | | |
| Torque max. | [Nm] | 14.200 | 21.000 | 30.000 / 51.000 |
| Revolutions per minute max. | [min ⁻¹] | 300 | 320 | 367/140 |
| Clearance max. | [mm] | 100 | 123 | 140 |
| Tilting / swivelling angle max. | [°] | 70 | 85/102 | 85/106 |
| Tilting moment max. | [kNm] | 36 | 59 | 59 |
| Drilling cable winch, hydraulic, traction force max. | [kN] | 120 | 80 | 125 |
| Wire line winch, hydraulic, traction force max. | [kN] | 20 | 20 | 20 |
| Auxiliary cable winch, hydraulic, traction force max. | [kN] | 25 | 30 | 30 |
| Rod screwing device | | | | |
| Rod bell, mechanical Ø max. | [mm] | 200 | 250 | 250 |
| Clamp head, hydraulic Ø max. | [mm] | 200 | 200 | 200 |
| Rod clamp, hydraulic | | | | |
| Clearance, opened / closed Ø max. | [mm] | 700-300 | 1.150-300 | 1.450-330 |
| Collet Ø max. | [mm] | 254 | 273 | 324 |
| Casing clamp, hydraulic | | | | |
| Clearance, opened / closed Ø max. | [mm] | possible | 1.150-420 | - |
| Collet Ø max. | [mm] | - | 419 | - |
| Break tong, hydraulic | | | | |
| Collet Ø max | [mm] | 273 | 273 | 273 |
| Breaking force max. | [Nm] | 34.000 | 34.000 | 34.000 |
| Rotary casing rotator,-machine, hydraulic | | | | |
| | | possible | possible/possible | possible/possible |
| Striking mechanism, hydraulic, load / number of impacts | [kN/i] | 6/40 | - | - |
| Mud pumps, delivery rate / pressure max. | [L/min] / [bar] | 450/40 | 750/20 | 750/20 |
| Compressors / generators | | possible/possible | possible/possible | possible/possible |
| Carrier vehicle / Chassis | | The types 6x4 or 8x8 are possible. | | |

All values are maximum values. These and the equipment elements are options. They also can exclude each other.



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