

# WEAR PARTS + CONSUMABLES

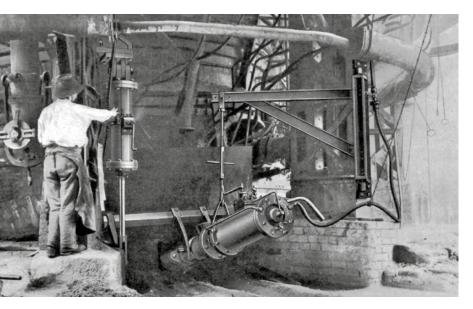
**PRODUCT INFORMATION** 

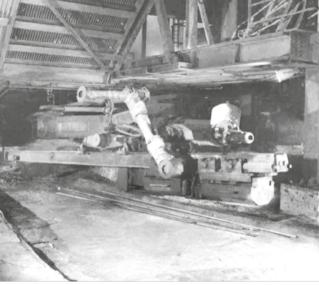
# TAPPING MEASURING TECHNOLOGY

## ABOUT

TMT is the fusion of two extraordinary companies which have merged their experience and expertise to ensure tapping solutions on a high-end level.

Many leading companies in the metalproducing industry trust our expertise, benefit from our ideas and rely on our team of highly qualified experts for their projects.





#### BEGINNINGS

Around 1900, the fist clay guns were manufactured at Dango & Dienenthal in Siegen.

In comparison to today's high end equipment, they could be considered rather simple, but demanding pneumatic constructions with a single cylinder, which made work around the taphole areas of blast furnaces easier and less dangerous. Thereby, the furnace workers still had to operate in a dangerous area, but instead of plugging the taphole by hand, only had to fill the machine with clay and plug the tap hole by maneuvering the clay gun into an appropriate position.

Employing clay guns did not only improve working safety, but also enhanced the productivity of blast furnaces, because interrupting the air-flow became unnecessary.

#### IMPROVEMENTS

In 1979, the first full reverse hammer was manufactured at Paul Wurth in Luxembourg. This taphole drill was operating based on a pneumatic hammer unit. It considerably improved the safety of taphole operators. Later around 1997, both TMT mother companies introduced fully hydraulic taphole drills and reverse hammer drills. Those are still today the state-ofthe-art of tapping technology, as only they satisfy the high demands for performance, reliability and safety.

# ROAD TO ZERO EMISSION

The whole steel industry is facing major challenges with regards to CO2 neutrality by 2050. There is still a long way to go.

However, TMT with its own factory in Haiger is already contributing to this target. Large areas of our factory roof top are equipped with a photovoltaic system. The generated energy is used to run our factory.

The cooperation with TMT enables our partners/customers to improve their carbon footprint.

# STILL STRIVE FOR MORE

Since the early bennings TMT has constantly developed and improved their taphole machinery to suit customers needs and requirements for a highly efficient and safe taphole operation.

Are you ready to exceed?



# HOW WE EXCEED

# PERFORMANCE IS THE RESULT OF THE INTERACTION BETWEEN MACHINES, WEAR PARTS AND CONSUMABLES.

As an Original Equipment Manufacturer of all these components, TMT understands the requirements best.

Only the use of original wear parts and the proper adjustment of machine settings and consumables ensure that performance-targets are met, costs are reduced and the operational safety is maximized.

# **30 YEARS OF EXPERIENCE**

# KEEP INCREASING YOUR PROFIT

Based on 30 + years of experience the people of TMT know a lot about drilling and plugging of tap holes.

TMT helps you to choose the right components for an optimized process which will save cost and eventually result in an increase of profitability.



# RELIABLE AND PREPARED FOR ALL CASES

# DELIVERY IN SHORT TIME

At our new production facility located in Haiger / Germany, right in the centre of Europe, we keep our stock levels for all standard components and raw materials on high levels which enables us to serve our customers reliably and in a very reasonable time.

We are set up to handle emergency cases and ensure a dispatch within 24 hours from order of all standard consumables like drill bits and other standardised wear items.

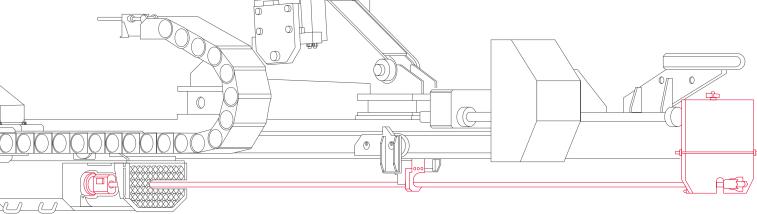
## WEAR PARTS AVAILABLE

Keeping the production running at a steady pace is an essential challenge.

Therefore we have stored up to 3,000 tons of material and more than 150,000 drill bits in our warehouse in Haiger, Germany, to ensure fast and reliable delivery.







11 - 14

## ADAPTERS + UPGRADE-KITS

WEAR PARTS

17 - 18

## DRILL RODS + PERCUSSION RODS

CONSUMABLES

19 - 24

DRILL BITS

CONSUMABLES

FURTHER EQUIPMENT

25 - 28

\_\_\_\_

CONSUMABLES

# WEAR DARTS



# BAYONET CONNECTION

WITHOUT SELF-CENTRING SYSTEM



KEYWAY Connection



THREAD CONNECTION



BAYONET CONNECTION

WITH SELF-CENTRING SYSTEM



#### **WITH**

# **KEYWAY** CONNECTION



INDIVIDUAL PARTS:





## LEG SPRING

#### IDENT NO

3003527 /Ø4 3003689 /Ø5



### LOCKING PIN

IDENT NO

260.126



## **FLOW STOPPER**

IDENT NO	
3005670	/Ø27
3005671	/Ø24



### **KEY**

**IDENT NO** 3005940 / 8,0 300 59 41 / 7,1 3005942 / 6,3



## **CHECK VALVES**

#### IDENT NO

3003720 / Ø27 300 37 19 / Ø 2 4

#### WITH STANDARD

# **BAYONET** CONNECTION



INDIVIDUAL PARTS:



### FLUSHING PIPE

**IDENT NO** 

1004071 / Ø24



## **FLOW STOPPER**

**IDENT NO** 3005670 / Ø27 3005671 / Ø24



## **CHECK VALVES**

#### **IDENT NO**

3003720 / Ø27 3003719 / Ø24

#### WITH SELF-CENTRING

# BAYONET CONNECTION



INDIVIDUAL PARTS:



## **FLUSHING PIPE**

IDENT NO

1004071 / Ø24



## **FLOW STOPPER**

**IDENT NO** 

3005670 /Ø27 3005671 /Ø24



## **CHECK VALVES**

#### IDENT NO

3003720 / Ø27 3003719 / Ø24

#### WITH

# THREAD CONNECTION

INDIVIDUAL PARTS:



## **FLOW STOPPER**

#### IDENT NO

3005670 /Ø27 3005671 /Ø24

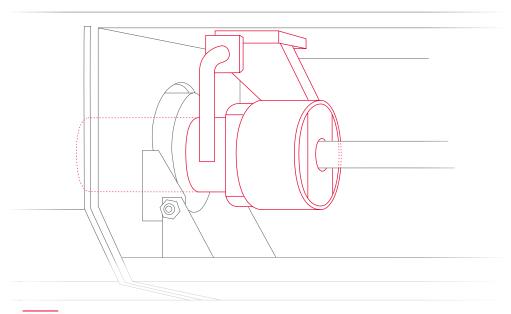


## **CHECK VALVES**

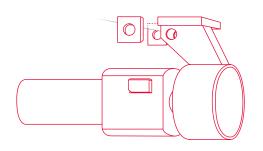
#### IDENT NO

3003720 /Ø27 3003719 /Ø24

# WEDGE SAFETY DEVICE



IN USE / ASSEMBLED

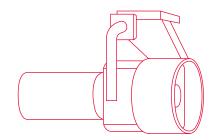


## APPLICATION

#### SIMPLE LOCK

This type of Wedge Safety Device without additional security elements combines the usual simple wedge connection with safe handling and is the next step towards reducing potential sources of danger.

The use of this unit is checked individually due to the different types of drill hammers.



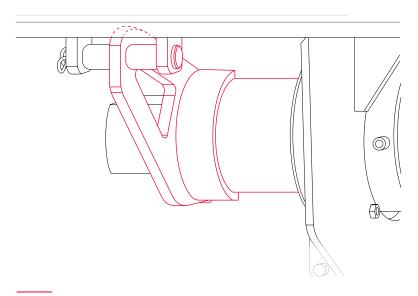
#### EASY MOUNTING

To secure the drill bar by means of a wedge, a safety device can be mounted on different types of drill hammers.

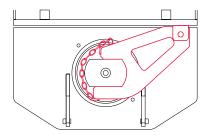
Due to the slidable design, the drill bar can be easily mounted as usual. After moving the safety device until it is locking, the position of the wedge is fixed and losing is impossible.

# ADAPTER RELEASE DEVICE

FOR THE BAYONET ADAPTER AND WEDGE ADAPTER



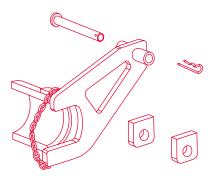
IN USE / ASSEMBLED



## **APPLICATION**

#### SECURE ATTACHEMENT

In conjunction with the TMT adapters, the use of a release device is possible with various types of drill hammers. The holding device is securely attached to the hammer drill carriage and surrounds the key surface of the adapter.



#### SAFE EXCLUSION

Upon actuation of the rotary hammer in opposite directions to the thread direction, the adapter is released and can then be safely removed by installation personnel. The use of this device is checked individually due to the different types of drill hammers.

# CONSUM-ABLES



DRILL RODS + PERCUSSION RODS



DRILL BITS



DRILL BITS

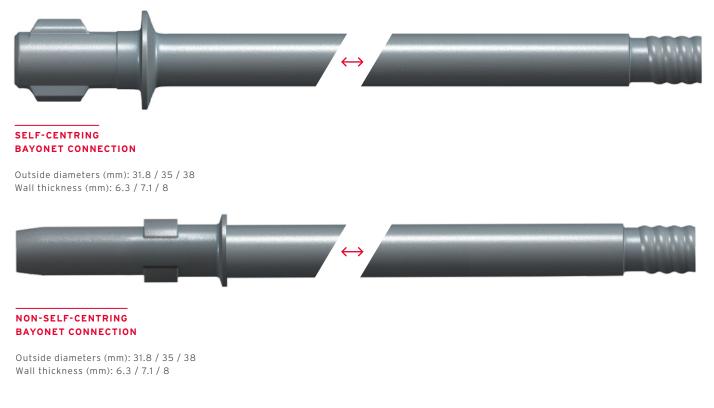


WEAR PARTS FOR TAPHOLE DRILLS + CLAY GUNS



# DRILL RODS + PERCUSSION RODS

## **DRILL RODS**





#### **KEYWAY CONNECTION**

Outside diameters (mm): 31.8 / 35 / 38 Wall thickness (mm): 6.3 / 7.1 / 8



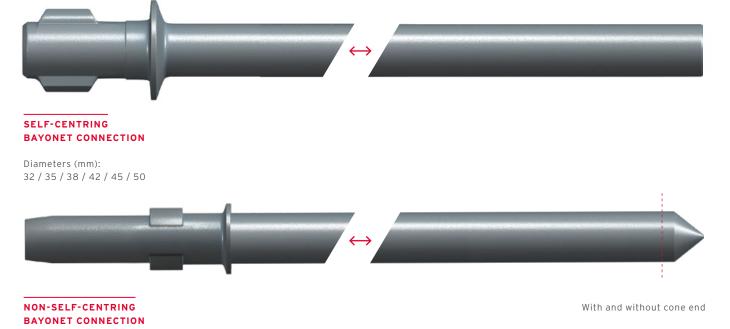
#### THREAD CONNCECTION

Outside diameters (mm): 31.8 / 35 / 38 Wall thickness (mm): 6.3 / 7.1 / 8



# DRILL RODS + PERCUSSION RODS

## **PERCUSSION RODS**



Diameters (mm): 32 / 35 / 38 / 42 / 45 / 50



**KEYWAY CONNECTION** 

With and without cone end

Diameters (mm): 32 / 35 / 38 / 42 / 45 / 50



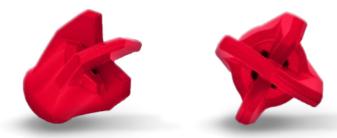
THREAD CONNCECTION

Diameters (mm): 32 / 35 / 38 / 42 / 45 / 50 With and without cone end

# WITHOUT CARBIDE



IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
3003200	TMT-RC-40-R 32	40 mm	R 32 left
3003201	TMT-RC-42.5-R 32	42.5 mm	R 32 left
3003202	TMT-RC-45-R 32	45 mm	R 32 left
3003203	TMT-RC-47.5-R 32	47.5 mm	R 32 left
3003204	TMT-RC-50-R 32	50 mm	R 32 left
3003205	TMT-RC-52.5-R 32	52.5 mm	R 32 left
3003206	TMT-RC-55-R 32	55 mm	R 32 left
3003207	TMT-RC-57.5-R 32	57.5 mm	R 32 left
3003208	TMT-RC-60-R 32	60 mm	R 32 left
3003209	TMT-RC-62.5-R 32	62.5 mm	R 32 left
3003210	TMT-RC-65-R 32	65 mm	R 32 left
3003212	TMT-RC-70-R 32	70 mm	R 32 left
3003214	TMT-RC-75-R 32	75 mm	R 32 left



CUTTER

RACER

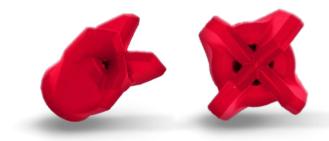
IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
<b>300 33 00</b>	TMT-CT-40-R 32	40 mm	R 32 left
300 33 01	TMT-CT-42.5-R 32	42.5 mm	R 32 left
<b>300 33 02</b>	TMT - CT - 45 - R 32	45 mm	R 32 left
300 33 03		47.5 mm	R 32 left
300 33 04	TMT - CT - 50 - R 32	50 mm	R 32 left
<b>300 33 05</b>	TMT - CT - 52.5 - R 32	52.5 mm	R 32 left
300 33 06	TMT - CT - 55 - R 32	55 mm	R 32 left
<b>300 33 07</b>	TMT - CT - 57.5 - R 32	57.5 mm	R 32 left
300 33 08	TMT - CT - 60 - R 32	60 mm	R 32 left
300 33 09	TMT - CT - 62.5 - R 32	62.5 mm	R 32 left
<b>300 33 10</b>	TMT - CT - 65 - R 32	<b>65 mm</b>	R 32 left
300 33 12	TMT - CT - 70 - R 32	70 mm	R 32 left
300 33 14	TMT-CT-75-R 32	75 mm	R 32 left

# WITHOUT CARBIDE



### MILLER

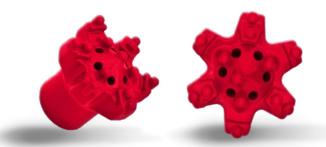
IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
3003800 3003801 3003802 3003803 3003804	TMT - ML - 40 - R 32 TMT - ML - 42.5 - R 32 TMT - ML - 45 - R 32 TMT - ML - 47.5 - R 32 TMT - ML - 50 - R 32	40 mm 42.5 mm 45 mm 47.5 mm 50 mm	R 32 left R 32 left R 32 left R 32 left R 32 left
300 38 05 300 38 06 300 38 07 300 38 08 300 38 09	TMT - ML - 52.5 - R 32 TMT - ML - 55 - R 32 TMT - ML - 57.5 - R 32 TMT - ML - 57.5 - R 32 TMT - ML - 60 - R 32 TMT - ML - 62.5 - R 32	52.5 mm 55 mm 57.5 mm 60 mm 62.5 mm	R 32 left R 32 left R 32 left R 32 left R 32 left R 32 left
3003810 3003812 3003814 3003816	TMT - ML - 65 - R 32 TMT - ML - 70 - R 32 TMT - ML - 75 - R 32 TMT - ML - 75 - R 32 TMT - ML - 80 - R 32	65 mm 70 mm 75 mm 80 mm	R 32 left R 32 left R 32 left R 32 left R 32 left



## SLITTER

IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
300 34 60 300 34 61 300 34 62 300 34 63 300 34 64	TMT - SL - 40 - R 32 TMT - SL - 42.5 - R 32 TMT - SL - 45 - R 32 TMT - SL - 47.5 - R 32 TMT - SL - 47.5 - R 32	40 mm 42.5 mm 45 mm 47.5 mm 50 mm	R 32 left R 32 left R 32 left R 32 left R 32 left R 32 left
300 34 65 300 34 66 300 34 67 300 34 68 300 34 68	TMT - SL - 52.5 - R 32 TMT - SL - 55 - R 32 TMT - SL - 57.5 - R 32 TMT - SL - 60 - R 32 TMT - SL - 62.5 - R 32	52.5 mm 55 mm 57.5 mm 60 mm 62.5 mm	R 32 left R 32 left R 32 left R 32 left R 32 left R 32 left
300 34 70 300 34 72 300 34 74	TMT - SL - 65 - R 32 TMT - SL - 70 - R 32 TMT - SL - 75 - R 32	65 mm 70 mm 75 mm	R 32 left R 32 left R 32 left

# WITHOUT CARBIDE



## SLUGGER

IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
3003150	TMT-SG-80-R 32	80 mm	R 32 left
3003151	TMT-SG-90-R 32	90 mm	R 32 left
3003152	TMT-SG-100-R 32	100 mm	R 32 left
3003153	TMT-SG-110-R 32	110 mm	R 32 left
3003154	TMT-SG-120-R 32	120 mm	R 32 left

# WITH CARBIDE



## TURNER

IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
3003600	TMT - TN - HM - 40 - R 32	40 mm	R 32 left
3003601	TMT - TN - HM - 42,5 - R 32	42,5 mm	R 32 left
3003602	TMT - TN - HM - 45 - R 32	<b>45 mm</b>	R 32 left
3003603	TMT - TN - HM - 47,5 - R 32	47,5 mm	R 32 left
3003604	TMT - TN - HM - 50 - R 32	50 mm	R 32 left
3003605	TMT - TN - HM - 52,5 - R 32	52,5 mm	R 32 left
<b>3003606</b>	TMT - TN - HM - 55 - R 32	55 mm	R 32 left
3003607	TMT - TN - HM - 57,5 - R 32	57,5 mm	R 32 left
3003608	TMT - TN - HM - 60 - R 32	60 mm	R 32 left
3003610	TMT - TN - HM - 65 - R 32	65 mm	R 32 left
3003612	TMT - TN - HM - 70 - R 32	70 mm	R 32 left
3003614	TMT - TN - HM - 75 - R 32 TMT - TN - HM - 75 - R 32 TMT - TN - HM - 80 - R 32	75 mm 80 mm	R 32 left R 32 left
3003616	1W11 - 1W - HW - 80 - R 32	00 11111	R 32 Ieil

# WITH CARBIDE



## SCRAPER

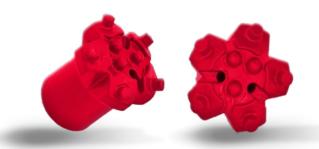
IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
<b>300 59 62</b>	TMT - SC - HM - 45 - R 32	45 mm	R 32 left
300 59 64	TMT - SC - HM - 50 - R 32	50 mm	R 32 left
3005965	TMT - SC - HM - 52.5 - R 32	52.5 mm	R 32 left
3005966	TMT - SC - HM - 55 - R 32	55 mm	R 32 left
3005968	TMT - SC - HM -60 - R 32	60 mm	R 32 left
3005970	TMT-SC-HM-65-R 32	65 mm	R 32 left



## GRAVER

IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
3003400	TMT-GV-HM-40-R 32	40 mm	R 32 left
3003401	TMT-GV-HM-42.5-R 32	42.5 mm	R 32 left
3003402	TMT-GV-HM-45-R 32	45 mm	R 32 left
3003403	TMT-GV-HM-47.5-R 32	47.5 mm	R 32 left
3003404	TMT-GV-HM-50-R 32	50 mm	R 32 left
3003405	TMT-GV-HM-52.5-R 32	52.5 mm	R 32 left
3003406	TMT-GV-HM-55-R 32	55 mm	R 32 left
3003407	TMT-GV-HM-57.5-R 32	57.5 mm	R 32 left
3003408	TMT-GV-HM-60-R 32	60 mm	R 32 left
3003409	TMT-GV-HM-62.5-R 32	62.5 mm	R 32 left
3003410	TMT-GV-HM-65-R 32	65 mm	R 32 left
3003412	TMT-GV-HM-67.5-R 32	67.5 mm	R 32 left
3003414	TMT - GV - HM - 70 - R 32	100 mm	R 32 left
3003416	TMT-GV-HM-75-R 32	110 mm	R 32 left
	TMT-GV-HM-80-R 32	120 mm	R 32 left

# WITH CARBIDE



## SLUGGER

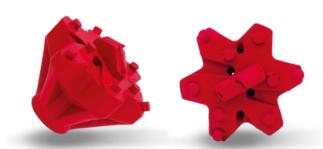
IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
3003643 3003644 3003658 3003645 3003659	TMT - SG - HM - 45 - R 32 TMT - SG - HM - 50 - R 32 TMT - SG - HM - 52.5 - R 32 TMT - SG - HM - 55 - R 32 TMT - SG - HM - 57.5 - R 32	45 mm 50 mm 52.5 mm 55 mm 57.5 mm	R 32 left R 32 left R 32 left R 32 left R 32 left
300 36 46 300 36 60 300 36 47 300 36 48 300 36 49	TMT - SG - HM - 60 - R 32 TMT - SG - HM - 62.5 - R 32 TMT - SG - HM - 65 - R 32 TMT - SG - HM - 70 - R 32 TMT - SG - HM - 75 - R 32	60 mm 62.5 mm 65 mm 70 mm 75 mm	R 32 left R 32 left R 32 left R 32 left R 32 left R 32 left
300 36 50 300 36 51 300 36 52 300 36 53 300 36 54	TMT - SG - HM - 80 - R 32 TMT - SG - HM - 90 - R 32 TMT - SG - HM - 100 - R 32 TMT - SG - HM - 110 - R 32 TMT - SG - HM - 120 - R 32	80 mm 90 mm 100 mm 110 mm 120 mm	R 32 left R 32 left R 32 left R 32 left R 32 left R 32 left



# TAPHOLE REAMER

IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
300 59 82	TMT - TR - 210 - R 32	210 mm	R 32 left
300 59 83	TMT-TR-245-R 32	245 mm	R 32 left
300 59 8 4	TMT - TR - 260 - R 32	260 mm	R 32 left
300 59 85	TMT-TR-300-R 32	300 mm	R 32 left

# WITH CARBIDE



## PUNCHER

IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
300 37 90 300 37 91 300 37 92 300 37 93	TMT - PC - HM - 80 - R 32 TMT - PC - HM - 90 - R 32 TMT - PC - HM - 100 - R 32 TMT - PC - HM - 110 - R 32	80 mm 90 mm 100 mm 110 mm	R 32 left R 32 left R 32 left R 32 left
300 37 94	TMT-PC-HMC-120-R 32	120 mm	R 32 left
300 37 95	TMT - PC - HM - 125 - R 32	125 mm	R 32 left

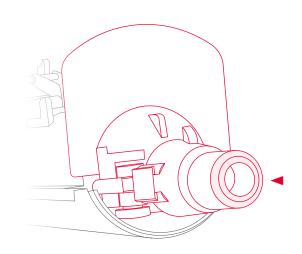


# **STARTER BIT**

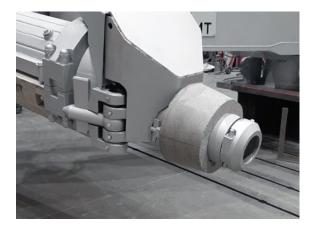
IDENT NO	DESCRIPTION	Ø DRILL BIT	THREAD
<b>300 59 92</b>	TMT - ST - HM - 80 - R 32	<b>80 mm</b>	R 32
300 59 93	TMT - ST - HM - 80 - R 38	80 mm	R 38

# NOZZLE PROTECTION

FOR TAPHOLE DRILLS + CLAY GUNS



#### IN USE / ASSEMBLED



#### USAGE

In order to protect components of the clay gun and taphole drill from iron projections and heat radiation and considerably extend their life time, TMT offers to upgrade your equipment with protections specifically designed and made of special refractory concrete.

# PROTECTIVE SHIELD



IN USE / ASSEMBLED



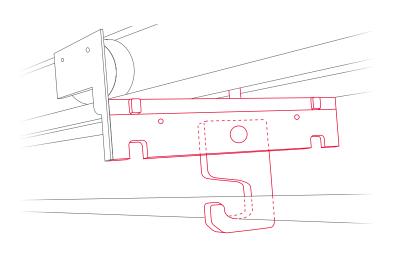
#### USAGE

By tapping into the blast furnace hot fluid metal spatters out and sparks are spraying. To protect humans and sensitive parts of the technical equipment, TMT machines have pre-installed protective shields.

The latest design of protection shields makes use of special refractories which increase the lifetime of these parts and help reducing the maintenance costs.

# CENTRING DEVICE

FOR TAPHOLE DRILLS + CLAY GUNS



#### IN USE / ASSEMBLED



#### USAGE

The centring device prevents excessive bending of the bar.

Using original parts helps the operators to drill a straight taphole channel and protect the taphole.

# CUSTOMIZED VERSIONS

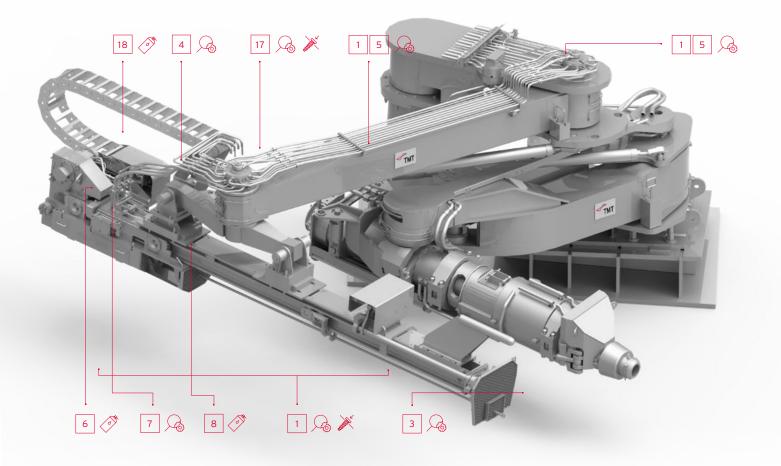
Customized versions and designs for your requirements are available as well. Let's get in touch.

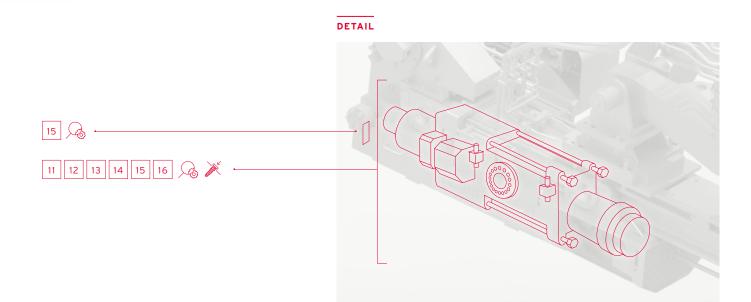
#### CONTACT

TMT - Tapping Measuring Technology GmbH T +49 271 4014-0 | contact@TMT.com

TMT - Tapping Measuring Technology S.à r.l. T +352 261920-0 | F +352 261920-2779 | contact@TMT.com

# INSPECTION + MAINTENANCE





# INSTRUCTIONS

1	Daily	Machine and	$\bigcirc$			
		working area	A		Visual inspection of the machine for: defects, damages, loosened connec- tions, leakages, etc.	Repair any defect immediately
					Checking of the signal lamps function	
2	Daily	Hydraulic system			Check oil level. Check oil temperature. Check dirt indicator of filter elements	Refill oil if necessarl. Level must be between MIN and MAX. Reflace Filter if it is dirty.
3	Daily	Protective plate	Â		Visual inspection. Check for complete filling with refractory	Repair if necessary
4	Daily	Adapter			Visual Inspection.	Replace Adapter if it is broken
5	Weekly	Pneumatic device Hydraulic device Electric device	Â		Visual Inspection. Check hydraulic pipes, hoses and screwed connections for leakage and damages	Repair any defects immediately
					Check electric motor for dirt	
6	Weekly	Rollerchain	( ) St		Lubricate with grease spray. Check roller chain tension.	If too much slack, restretch
7	Weekly	Roller conveyor	A		Visual inspection.	Clean
8	Weekly	Wheels	() I		Lubricate with grease spray or grease gun.	Repair if necessary
9	Weekly	Oiler	J		Check oil level. Check oil temperature. Check dirt indicator of filter elements.	Refill oil if necessary; Level must be between MIN and MAX. Reflace Filter if it is dirty.
10	Weekly	Central lubrication system	<u></u>	<b>A</b>	Visual inspection.	Refill grease if necessary. Repair if necessary.
11	Weekly	Tightness of hydraulic hoses and screw connections		<b>A</b>	Visual inspection.	Repair if necessary.
12	Weekly	Expansion screw connection to interface: rotator, gearbox and ham- mer, slide	Â	À	Visual inspection.	Repair if necessary.
13	Weekly	Impact piston striking surface on the drill adapter	Â	X	Visual inspection.	Repair if necessary
14	Weekly	High and Low pressure accumulator	A	<b>A</b>	Visual inspection. Pressure test.	Repair if necessary. Correct pressure if necessary.
15	Weekly	Flushing tube seal, flushing pipe	<u></u>	X	Visual inspection.	Repair if necessary New set of seals if necessary.
16	Weekly	Hammer lubrication			Visual inspection.	Repair if necessary.
17	Monthly	Suspension	R	JA.	Visual inspection. Check all screws on mast for tight fit	Repair if necessary.
18	Monthly	Cable track chain	<u></u>		Lubrication with grease spray	Repair if necessary

**TMT - Tapping Measuring Technology GmbH** Hagener Str. 103 | D-57072 Siegen T +49 271 4014-0 | contact@TMT.com TMT - Tapping Measuring Technology S.à r.l. 32, rue d'Alsace | L-1122 Luxembourg | P.O. Box 2233 | L-1022 Luxembourg T +352 261920-0 | contact@TMT.com

TMT.com