TAPPING TECHNOLOGY
FOR NON-FERROUS AND FERRO-ALLOY APPLICATIONS
TMT - TOGETHER - ONE STEP AHEAD

For more than one hundred years, the names **DANGO & DIENENTHAL** and **PAUL WURTH** have been renowned for robust and reliable taphole technology.

The joint venture company **TMT** combines the experience of both, **DDS** and **PW**, to contribute to the creation of taphole technology for the future.

Key objectives are:
» ongoing product improvement
» expanded service offering
» an improved price-performance ratio
» a broader distribution network
» taphole management

*Combined taphole machine after opening the furnace*
With TMT’s large product range, the taphole area of existing plants or new furnaces can be best possibly configured by using either standard modular components or customized design solutions.

3D movement simulation software is used to optimize tapping area layouts including runners or launders according to our customers’ requirements. The pictures show a real installation.

Modern Tapping Area

» Clay Gun
» Taphole Drill
» Rodding Device
» Cleaning Device

**SAFETY CONCEPT**

Our combined machines are in compliance with machine standards 2006 42 EG. Complete systems including electric and hydraulic are provided with CE marking. Naturally the machines fully comply with the latest safety standards. According to risk analysis the PLC system is in accordance with EN ISO 13849 Performance Level D.
**Project Planning**

During the project planning phase the tapping platform efficiency is determined for many years of reliable operation. Efficient work processes, space utilization, the actual and future degree of automation, safety concepts and investment costs must be considered to design the ideal customer specific solution.

Decades of experience and several hundred successful layouts designed, position TMT as a solid partner to ensure the overall efficiency of an installation.

The following examples show the variety of potential layouts.

**Individual Solution**

Machine running on floor rails on the ground floor

**Individual Solution**

Pedestal mounted machines on the tapping platform
Our latest innovation: the modular construction kit

- Travel frame for curved or straight rails
- Taphole Drill
- Clay Gun
- Rodding Device
- Cleaning Device

Rail-bound combined clay gun and taphole drill

Working Position A (Resting Position)
Working Position (Working Position B)

Serving round or rectangular furnaces

or even multiple furnaces
OPTIONAL EQUIPMENT

RODDING DEVICE
A universal tool for carrying:
» steel rods
» wooden rods
» cleaning scrapers
» oxygen pipes

SLAG STOPPER
A reliable device
» solid copper or water cooled

TEMPERATURE MEASUREMENT AND SAMPLING
Lances for liquid metal temperature measurement and sampling complete the range of TMT casthouse measuring technology.
Several hundred furnaces across the world produce with our machines!

**Europe**

- ALZCHEM
- AURUBIS
- B.U.S. VALERA
- BOLIDEN
- COMILOG
- ELKEM
- ERAMET
- FENI
- FERROATLANTICA
- FINNFORD
- HIDRO NITRO
- ICELANDIC ALLOYS
- LARCO
- MAGNOHROM
- METAROM
- NORILSK
- NORSK JERNVERK
- OUTOKUMPU
- OFZ
- P E M
- PRIMOREC
- SADACEM
- SMS SIEMAG
- TINFOS
- UNION MINIERE

**Africa**

- ANGLO PLATINUM
- ASA METALS
- ASSMANG CHROME
- AVMIN
- FERALLOYS
- HIGHVELD STEEL
- IMPALA PLATINUM
- INTERNAT. FERROMETALS
- KONKOLA COPPER MINES
- LONMIN
- MIDDLEBURGH STEEL
- MUFULIRA COPPER MINES
- NAMAKWA SANDS
- OUTOKUMPU
- RICHARDS BAY
- ROAN CONSOLIDATED MINES
- SAMANCOR
- SOUTHERN CROSS STEEL
- TICOR
- TRANSALLOYS
- XSTRATA
- ZIMASCO

**Asia**

- BHUSHAN
- CHUO ELECTRIC
- FANYUAN NON-FERROUS
- FERRO ALLOY
- FERRO CHROM ORISSA
- FERROPHIL
- HUILI KUNPENG
- JIANGXI COPPER
- JILIN JIEN NICKEL
- JINCHUAN NONFERROUS
- JINDAL
- KAZ ZINK
- KAZAKHMYS
- KAZCHROME
- OMAN MINING
- POSCO
- POSHIMETAL
- PT INCO
- SABAYEK
- SHANDONG HUMON
- STERLITE
- YUNNAN COPPER
- YUNNAN TIN

**Latin America**

- ENAF
- ACEPAR
- ACESITA
- CARAIBA
- CBMM
- CERRO MATOSO
- CODELCO
- CODEMIN
- ENAMI
- FERROVEN
- IRONBRAS
- MINERA LOMA
- SOUTHERN PERU

**North America**

- FALCONBRIDGE
- HATCH
- IDI
- INCO
- NORANDA
- INMETECO
- STILLWATER

**Australia / Oceania**

- BHP BILLITON
- HISMELT
- KONIAMBO NICKEL
- LE NICKEL
- NEW ZEALAND STEEL
- SIMCOA

This is an extract from our reference list for non-ferrous and ferro-alloy installations. Please contact us for the full list.
Benefit from more than 100 years of experience

TMT’s product range for blast furnaces includes:

- **Measuring technology**
  - Above-burden and In-burden Probes
  - Profilemeters
  - Other measuring equipment

- **Tapping technology**
  - Clay Guns
  - Taphole Drills
  - Runner Cover Manipulators
  - Tilting Runners

- **Consumables**
- **Services**