The Theysohn® Twin-Screw Extruder

Parallel Twin-Screw Extruders for PVC-Pipes

The Theysohn TTS HD series represents the newest technology in parallel twin-screw extrusion. The TTS series meets increased customer demands on processing and flexibility for pipe extrusion. Highest melt quality is achieved with proven and reliable 28D long processing units. Due to an improved gearbox design, a higher safety factor of more than 1.45 has been achieved. Therefore the lifetime of the gearbox is increased and a trouble-free production over a long time is ensured.

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### Technical data

#### Output rate (dep. on formulation and tool)
- **Gelification capacity**
- **Output guarantee for PVC pipe**

#### Screws
- **Diameter** mm: 78, 88, 88, 108, 108
- **L/D ratio/total** 26/26, 24/26, 26/28, 24/26, 26/26
- **Screw speed max.** rpm: 45.3, 40.0, 40.0, 32.5, 32.5
- **Total torque** Nm: 7390, 10600, 10600, 20000, 20000
- **Heating/cooling unit by oil, heating/cooling cap.** kW: 10/15, 10/15, 10/15, 10/15, 10/15

#### Drive
- **Main drive (AC)** kW: 37, 48, 48, 73, 73
- **Drive speed max.** rpm: 1775, 1770, 1770, 1900, 1900

#### Gearbox
- **Application factor** 1.45, 1.45, 1.45, 1.45, 1.45

#### Barrel
- **Installed heating capacity** kW: 28, 34, 34, 50, 50
- **No. of heating/cooling zones** 5/3, 5/3, 5/3, 5/3, 5/3
- **Vacuum pump** kW: 1.5, 1.5, 1.5, 1.5, 3.0
- **Heating/cooling unit by oil, heating/cooling cap.** kW: 10/15, 10/15, 10/15, 10/15, 10/15

#### Tool zones [option]
- **Max. tool zones 230V 1-phase [no./installed cap.]** kW: 18 x 3.5, 18 x 3.5, 18 x 3.5, 18 x 3.5, 18 x 3.5
- **Max. tool zones 400V 3-phase [no./installed cap.]** kW: 16 x 10.5, 18 x 10.5, 18 x 10.5, 18 x 10.5, 18 x 10.5

#### Feeding [option]
- **Starve feeder (AC)** kW: 1.1, 1.1, 1.1, 1.1, 1.1

#### General data
- **Total connection (stand./max. tooling zones), max.** kVA: 88/205, 100/218, 100/218, 148/295, 148/295
- **Water consumption (at 10° C water temperature)** m³/h: 1.2, 1.4, 1.4, 1.6, 1.6
- **Center Line** mm: 1100, 1100, 1100, 1100, 1100
- **Weight [incl. control cabinet] approx.** kg: 4700, 5200, 5300, 6700, 6800

### Standard
- Main drive maintenance-free AC-motor
- TEC 4s control with 19” color TFT display with touchscreen
- Windows XP embedded operating system
- Full recording of all alarms
- On-line shifting between languages
- Production logs (stored or printed)
- Trend graphs
- Voltage loss protection (up to 3 sec)
- Back pressure monitoring in gearbox with emergency cut-off
- Synchronization of up to 12 drives
- Self-tempering temperature controllers
- Timer for barrel and tool heating zones
- Deep nitrided screws, molybdenum coating of screw flights, chromium-plated screw flanks in venting and metering zone
- Passive screw temperature control (water-filled screw)
- Barrel with 5 heating zones, 2 zones air-cooled and metering zone oil-cooled with speed controlled oil-pump, elliptical barrel design in metering zone
- Barrel heating with ceramic heater bands, Zone 1, 2
- Barrel covers
- Vacuum pump and vacuum canister with filter and bypass
- Adapter stainless steel incl. heating zone
- Bore holes incl. plugs for melt pressure and temperature sensors in adapter
- Colour: blue RAL 5015, doors grey RAL 7036
- Voltage: 3 x 400V + 0, 50 Hz
- Electric CE-conform

### Options
- 6/12/18 tool zones 230V 1-phase
- 6/12/18 tool zones 400V 3-phase
- Starve feeder with maintenance-free AC-motor and full screw
- Heat current control for tool zones and barrel heating zones
- Melt temperature monitoring and data storage
- Melt pressure monitoring and data storage
- Active screw temperature control by oil incl. oil blocks
- Barrel with 5 heating and 3 air-cooled zones, elliptical barrel design in metering zone
- Customized adapter design
- Gravimetric feeding unit integrated in TEC control
- Saw cut control integrated in TEC control incl. wall thickening program
- Remote maintenance via LAN and/or Internet
- Interface cards for network links (Ethernet card)
- Acoustic alarm (horn)
- Air conditioning for control cabinet [electrical type]
- Air-water heat exchanger for cooling of control cabinet
- Machine subframe for customized extrusion center height
- Machine subframe on wheels with rails (+ 50 mm)
- Hopper level indicator
- Stainless steel hopper
- Hopper loader systems
- Side-mounted vacuum canister
- Second side-mounted vacuum canister
- Additional 2 single dosing feeders for pigments and additives
- K-Tron twin-screw side dosing feeders
- Screws deep nitrided, without molybdenum-coating, without chromium
- Special voltage and electrical standards
- Customized colour
- Screws deep nitrided, molybdenum-coating, fully 3-layer chromium plating [for C-PVC use]
- Bore holes to incl. plugs for melt pressure and temperature sensors in adapter
- Melt pressure monitoring and data storage
- Active screw temperature control by oil incl. oil blocks
- Barrel with 5 heating and 3 air-cooled zones, elliptical barrel design in metering zone
- Customized adapter design
- Gravimetric feeding unit integrated in TEC control
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In the interest of continuing development we reserve the right to amend any specification without notice. 10/2010 (TTS-R En)