# **Toolmat® T70**

The hybrid nozzle is principally delivered flush-mounted to the 3/8" thread connection at the end of the feed tube. So it is possible to mount the Toolmat T70 at any appropriate connection.

selectable flow rate. The spray grade can be determined via the spray air. The saturation of the mixture can be adjusted via the casing air. In the Vario3

pneumatic or manual)

With Toolmat<sup>®</sup> T70 the proven piston pumps provide for an exactly

and Vario7 versions, 3 or 7 pre-settable oil quantities can be selected.

If possible, the hybrid nozzle may project out of the 3/8" external thread connection for a certain length so that the body (Ø5mm) of the hybrid nozzle extends

through the axial rotary transmission leadthrough into the spindle. This more complex installation pays off by better spraying results thanks to the shorter distance to the cooling channel outlet.

Piston pump system with special nozzle design for fine oil-air mixtures.

Internal MQL for single channel rotary union, lower and middle rpm

The piston pumps transport the liquid from the supply reservoir

switch on/off via actuation control device/ drive (electric,

## System components:

### 1. Base / Base addition

- Pneumatically driven, finely meterable piston pump (1) with double flow volume (2DF) with FPM seals, manually adjustable volume dial 3 (0 - 0.06 ml per stroke). Vario3 and Vario7 variations have piston pumps with simple flow (0 - 0.03 ml per stroke), individually adjustable.
- Ventilation unit (2) integrated underneath the pump module.
- Frequency generator for pump pulses, manually adjustable 0 90 stroke min<sup>-1</sup>.
- Dedicated air valve to determine spray air quantity.
- Dedicated air valve to determine casing air quantity.
- Manometer (0 10 bar) in the door front to indicate spray air pressure.
- Coupler plug for compressed air supply on left side of housing.
- Air filter / water separator with drainage opening on underside of housing.
- High grade push in/screw fittings / pneumatic tubes.
- Stable, compact metal housing (250x250x210 or 300x250x210) with robust metal closer and door seal for dust protection and noise reduction, earthing pin.
- Connection for feed tube on the left side of housing.
- **Component labelling** in accordance with the designations in the pneumatic connection diagram.

2. Reservoirs from 2.0 to 27 litres available (details, variations and data: see Lubrimat<sup>®</sup>, on page 9).

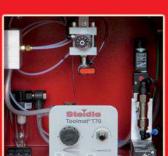
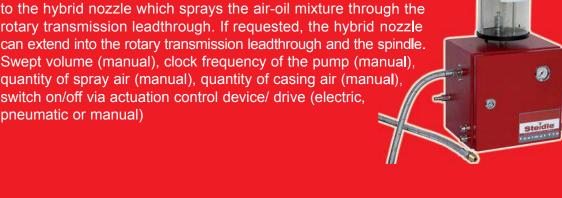




Fig.: Pump module T70





**Brief description:** Main application range: **Operating principle:** 

Adjustability:



#### 3. Drive electric, pneumatic or manual option:

- Solenoid valve 3/2 way (1300 Nl/min) with auxiliary actuation (for occasional manual switching on/off). Coil with plug in 24V DC, 24V AC, 110V AC or 230V AC. Cable bushing on left side of housing. Vario3 and Vario7 also offer separate actuation control of each pump via a solenoid valve.
- Pneumatic valve 3/2 way (1300 NI/min). With push in connection Ø6 for control air on the left side of housing.
- Hand valve 3/2 way (600 NI/min) as valve rocker on the right outer side of housing.

#### 4. Feed tube

- Feed tube with Ø16 external tube with robust metal sleeve, two internal tubes for lubricant and air supply, constructed of PTFE Ø3. Standard length 3,000, non-standard lengths up to 20,000 available on request.

#### 5. Nozzle

- HY: hybrid nozzle flush with the 3/8" external thread connection at the end of the feed tube.
- HY...: hybrid nozzle projects ...mm out of the 3/8" external thread connection at the end of the feed tube.

#### 6. Option

- 4 x round magnet Ø80 (mounted on the reverse side) for easy installation of the housing.
- 4 x mounting straps (mounted on the reverse side) for fixed installation of the housing.

## Technical Data:

					1	
Operating pressure		bar	5 - 8			
Liquid throughput		ml/h	<u>0 – 300 <sup>1)</sup></u>			
Typical consumption		ml/h	<u>20 – 50 <sup>1)</sup></u>			
Lubricoolant			Lubrimax <sup>®</sup> and othe	ers		
Recommended viscos	sity r	nm²/s (at 40°C)	1 - 50			
Dimensions (HxWxD)						
Housing (without reservoir)		mm	250 x 250 x 210 (St			
-			300 x 250 x 210 (Va			
			<ol> <li>depending on applicat</li> </ol>	ion, medium used, viscosity and temperature		
Order codes:					1	
<u>0. Base</u>	T70	MQL for inter	nal lubrication, hybrid r	nozzle on feed tube		
1. Base addition	/1 (for 1 nozzle, standard)					
	/1V3	(for 1 nozzle,	Vario 3 = 3 pre-adjusta	able settings for the oil quantity)		
	/1V7	(for 1 nozzle,	Vario 7 = 7 pre-adjusta	able settings for the oil quantity)		
2. Reservoir		(2.0 to 27 litre	es available, for order c	ode see Lubrimat, page 12)		
3. Drive	EV	electric (24V I	DC, 24V AC, 110V AC	oder 230V AC)		
	PV3	pneumatic				
	H3	hand actuated	hand actuated			
4. Feed tube	ZM3000 ZM		feed tube, metal outer Ø16 / inner 2 x PTFE Ø3, L=3,000 (standard) feed tube, L= (non-standard length, min. 500, in increments of 500)			
5. Nozzle	HY HY		hybrid nozzle flush (standard) with the 3/8" external thread connection hybrid nozzle projectsmm out of the 3/8" external thread connection			
6. Option	RG MG		housing mounting 4 x round magnet Ø80 housing mounting 4 x mounting straps			
Sample order code	<u>: <u>T70/1</u></u>	- <u>P2NC</u> - <u>E24</u>	<u>VDC</u> - <u>ZM3000</u> - <u>H</u>	<u>Y</u> - <u>RG</u>		
0. Base ———				6. Option		
1. Base addition -						
2. Reservoir ——				5. Nozzle		
3. Drive ———				4. Feed tube		
				Page 19		

**Examples of**