

Machine tool coolant supply Medium and High Pressure Pumps

Very diverse requirements in terms of machine supply require different pump concepts. Small and compact for external cooling, medium pressure requirements up to 50 bar for internal cooling or high pressure of up to 200 bar. Uncontrolled or controlled, designed for optimum energy usage.

Coolant pumps, that's us!



TS | (S)TC



Impellers peripheral / closed
Fluids coolants, emulsions, oils
Volumetric delivery up to 600 l/min
Delivery head up to 225 m

Immersion Pumps (TS)

- Easy mounting on top of the tank
- Compact design
- Short immersion depths
- Special execution for tempering units available

Immersion Pumps ((S)TC)

- Easy mounting on top of the tank
- Simple piping connection with optional SAE flange
- Closed impellers provide optimal hydraulic efficiencies while minimizing power consumption
- Pump performance curves can be regulated using an adapted frequency converter

(S)TH | FH



Impellers closed
Fluids coolants, emulsions, oils
Volumetric delivery up to 640 l/min
Delivery head up to 520 m

Immersion Pumps

- Easy mounting on top of the tank
- Simple piping connection with optional SAE flange
- Closed impellers provide optimal hydraulic efficiencies while minimizing power consumption
- Pump performance curves can be regulated using an adapted frequency converter
- Grinding version available
- An even wider range of performance curves
- All wetted parts are also available in stainless steel upon request

Pressure Boosting Pumps

- Foot mounted inline pumps; gravity fed
- Closed impellers provide optimal hydraulic efficiencies while minimizing power consumption
- Pump performance curves can be regulated using an adapted frequency converter
- An even wider range of performance curves
- As a booster pump for inlet pressures of up to 26 bar

BFS | TFS | FFS



Spindles hardened, precision ground
Fluids coolants, emulsions, oils
Volumetric delivery up to 878 l/min
Delivery pressure up to 200 bar

High Pressure Immersion Pumps

- Highly wear-resistant silicon carbide housings and specially hardened spindles
- Excellent efficiencies
- 6 sizes for optimum operating point selection
- Available fully assembled with mounting plate, valve and piping
- Available with adapted frequency converter for optimum adaptation to the operating point
- Energy efficient solution in combination with the Brinkmann Pumps Offset regulation while at the same time minimizing pressure peaks during tool changes

Technical Information

Medium Pressure Pumps (S)TC | (S)TH | FH



Our multistage pump models (S)TC25 to (S)TC460 have been especially developed to supply internally cooled tools with coolant fluid.

Closed impellers provide optimal hydraulic efficiencies while minimizing power consumption.

A **frequency converter** can be supplied for **special applications** or for matching the pump characteristic to a specific duty point. See page "Control/Regulation" in the Technical Information section of this catalog for further information.



(S)TC63



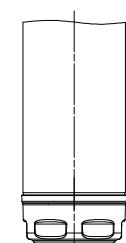
(S)TC260

SAE Flange for TC Pumps

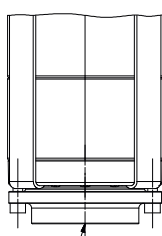
Upon request all TC pumps are available with an SAE flange. The flange allows for either vertical or horizontal pipe connection and offers a G 1/4 pressure gauge connection port. A surcharge applies for pumps ordered with SAE flange.

Pump suction with threaded inlet

The TC25 to TC160 series pumps are also available with threaded suction ports upon request. This feature increases the standard immersion depth by 40 mm.



TC25-160



TC260-460

Pump Curves

One key feature of the (S)TC series pumps is their non-overloading motors. These pumps can be operated across the entire pump curve without damaging the motor. This key advantage applies for all allowed fluids, including coolant oils. For specific applications where only one working point is required, the pump/motor combinations can be reviewed and a smaller motor size might be applicable.

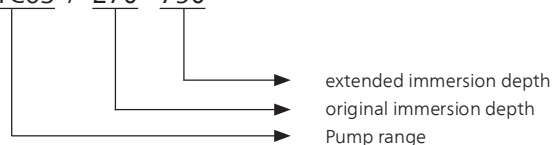
Number of Stages

(S)TC pump curves are determined by the number of impeller used within the pump.

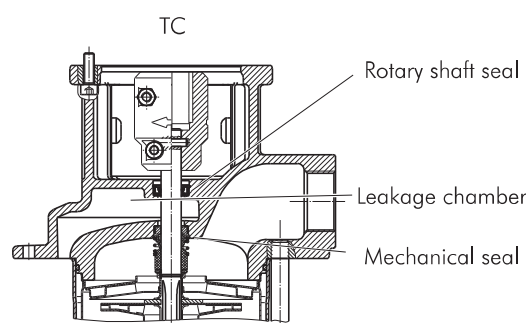
Within the range the immersion depth can be extend up to the maximum mentioned length.
Example: STC63/270-750

Type Designation

(S)TC63 / 270 - 750



Leakage chamber / Leakage connections





Technical Information

Medium Pressure Pumps (S)TC | (S)TH | FH

Series (S)TH and FH use closed impellers in order to minimize power consumption and to optimize hydraulic pump efficiencies.

In addition, the (S)TH series offers high pressures at short immersion depths. Inline pumps of the series FH can be used as boosting pumps if provided with positive inlet pressure. This inlet pressure can be provided by the central coolant supply or a feed pump. In such a setup, pumps of the series FH can raise the incoming pressure by up to 26 bar.

A **frequency converter** can be supplied for **special applications** or for matching the pump characteristic to a specific duty point. See page "Control/Regulation" in the Technical Information section of this catalog for further information.



(S)TH



FH

SAE Flange for TH Pumps

Upon request all TH pumps are available with an SAE flange (STH). The flange allows for either vertical or horizontal pipe connection and offers a G 1/4 pressure gauge connection port. A surcharge applies for pumps ordered with SAE flange.

Pump Curves

One key feature of the (S)TH/FH series pumps is their non-overloading motors. These pumps can be operated across the entire pump curve without damaging the motor. This key advantage applies for all allowed fluids, including coolant oils. For specific applications where only one working point is required, the pump/motor combinations can be reviewed and a smaller motor size might be applicable.

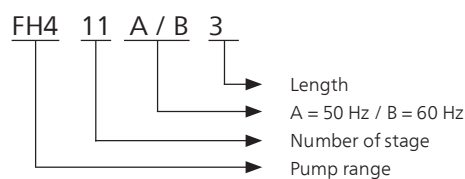
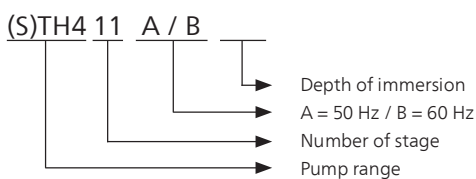
Number of Stages

(S)TH/FH pump curves are determined by the number of impeller used within the pump.

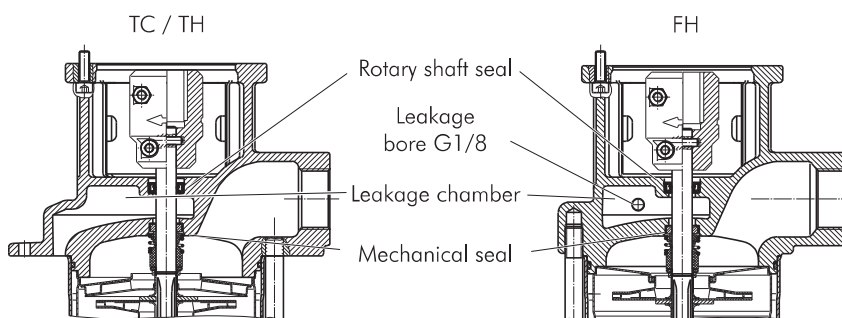
Within the range the immersion depth can be extend up to the maximum mentioned length.

Example: STH203A890 (3 impeller, 890 mm immersion depth)

Type Designation



Leakage chamber / Leakage connections



Small leaks flow back through the leakage chamber into the tank without reaching the outside.

By connecting a leakage line it is possible to direct minor leaks back into the tank.

Technical Information

Medium Pressure Pumps (S)TC | (S)TH | FH



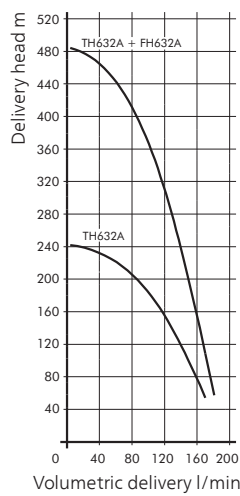
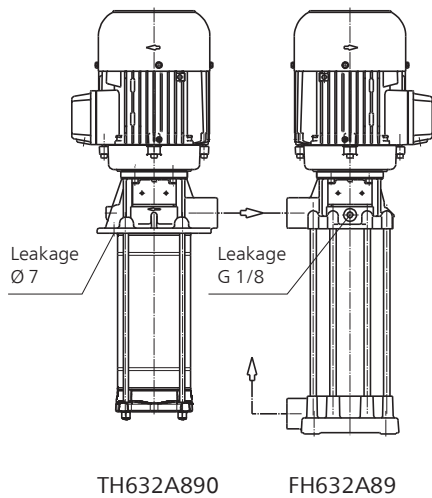
Operation of (S)TH/FH pumps in grinding applications

Grinding versions (S)TH/FH pumps (-E). (S)TH/FH series pumps can be supplied upon request in a special grinding version for applications with heavy loads of abrasive particles (>50HRC). Ordering description: e.g. TH224A590-E

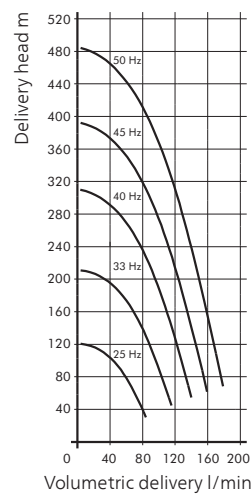
In this version pumps are supplied without internal diffusor gaskets in order to prevent increased wear caused by the abrasive particles in the fluid. As a result, however, the internal losses of the pump increase and the pump curves are reduced.

The grinding version cause lower pump curves. These curves are available upon request.

Examples for pressure boosting: TH632A890 + FH632A89 in tandem-arrangement

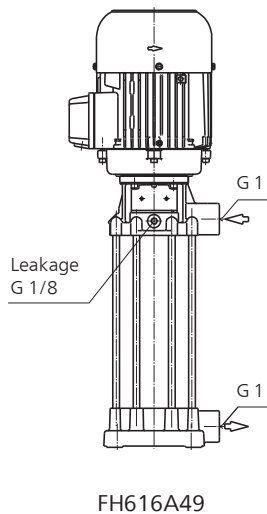


Tandem-arrangement

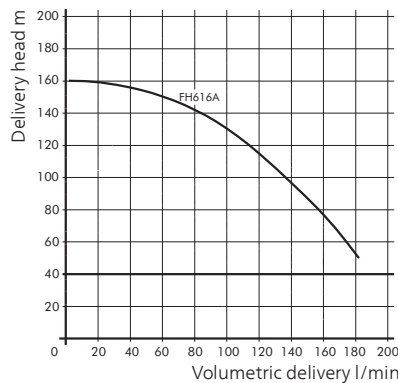


Tandem-arrangement
Each pump controlled by one variable frequency converter

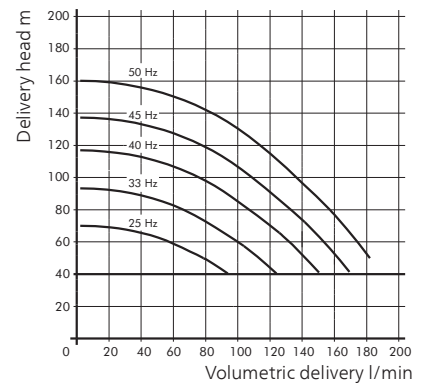
Examples for pressure boosting: FH616A49 + 4 bar of positive head from central coolant supply



FH616A49



4 bar of positive head + pump



4 bar of positive head + pump controlled by frequency converter



Technical Information

Medium Pressure Pumps (S)TC | (S)TH | FH

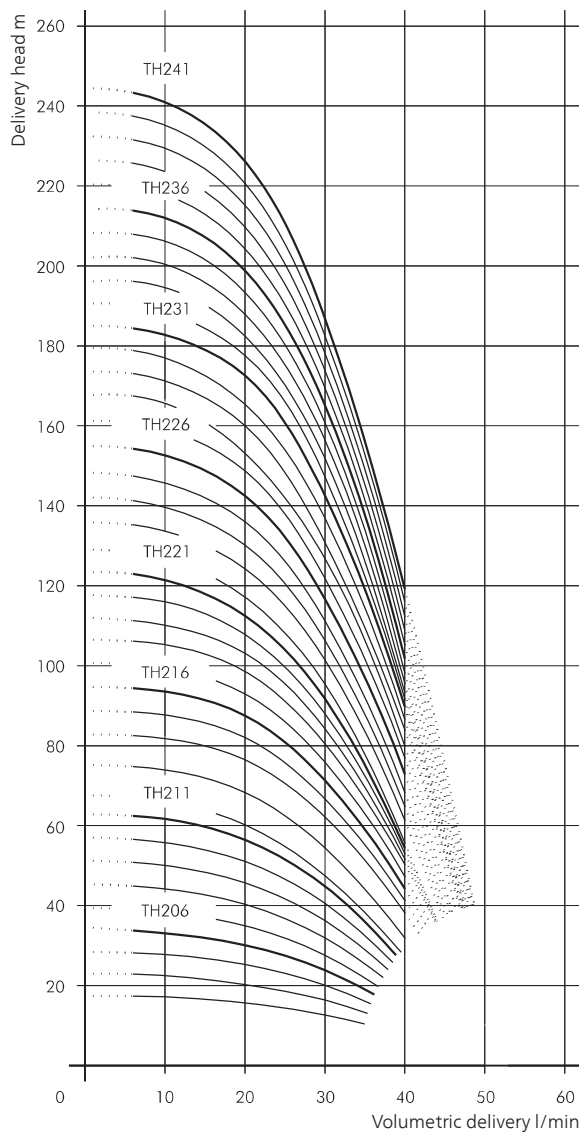
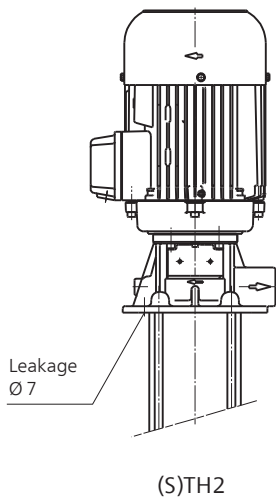
Operation of (S)TH / FH Pumps outside of the recommended flow rate ranges

Operation of (S)TH and FH pumps **outside of the recommended flow rate ranges** and within the perforated zones of the pump curves can lead to premature damage and failure of pump components.

Therefore, we recommend the use of the reinforced versions of these pump models when operation in the perforated zones of the curves is present, i.e. during temporary pump operation through a bypass with very low flow rates.

Ordering description: e.g. TH224A590-Q

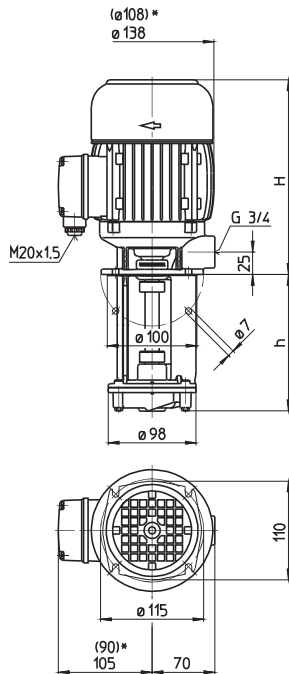
Example: (S)TH2



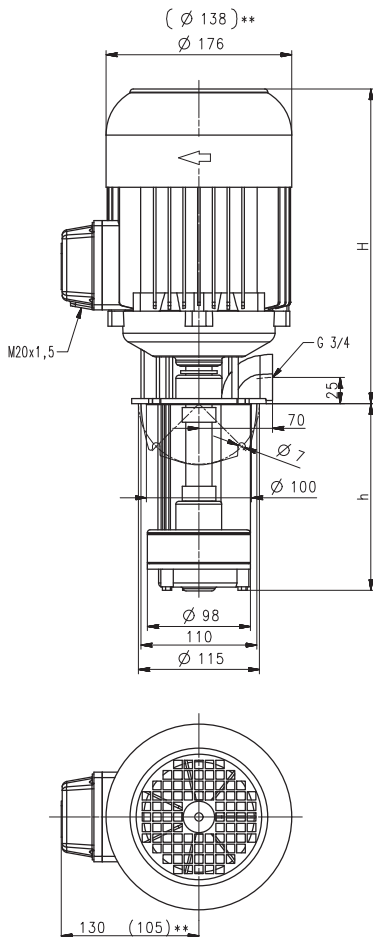
TS12...TS24

Peripheral impellers

TS12, 13, 14, 21, 22



TS15, TS24



*) Dimensions for TS12, 13

***) Dimensions for TS15

Type	Vol. del. at manom. del. head l/min / m	Height H mm	Depth of im- mersion h mm	Weight kg	Power kW	Voltage 3 ~ V	Fre- quen- cy Hz	Current A	Speed 1/min
TS12/110	20/10	236	110	5.7	0.32	220-240	50	1.58	2825
	150		150	5.9					
	190		190	6.3	0.365	460	60	0.84	3400
	250		250	6.8					
	300		300	7.3					
TS13/110	20/16	236	110	6.2	0.32	220-240	50	1.58	2825
	150		150	6.4					
	190		190	6.8	0.365	460	60	0.84	3400
	250		250	7.3					
	300		300	7.8					
TS14/110	20/16	243	110	7.2	0.48	220-240	50	2.06	2820
	150		150	7.5					
	190		190	7.9	0.55	460	60	1.14	3405
	250		250	8.2					
	300		300	8.5					
TS15/190	20/35	285	190	12.5	1.1	220-240	50	4.33	2850
	220		220	13.0					
					1.27	460	60	2.4	3440
TS21/110	40/14	258	110	9.7	0.75	220-240	50	3.24	2850
	150		150	10.0					
	190		190	10.5	0.86	460	60	1.85	3440
	250		250	11.0					
	300		300	11.5					
350		350	12.0						
TS22/110	40/25	285	110	11.8	1.1	220-240	50	4.33	2850
	150		150	12.2					
	190		190	12.5	1.27	460	60	2.4	3440
	250		250	13.0					
	300		300	13.4					
350		350	13.7						
TS24/140	40/35	360	140	26	1.9	220-240	50	6.84	2900
	180		180	27					
	220		220	28	2.18	460	60	3.9	3500


Immersion Pumps

Models TS12 to TS24 are suitable for **CNC machine tools** featuring coolant supply through the tool holder or driving spindle or equipped with internally cooled tool.

These pumps are equipped with a peripheral impeller to achieve a compact high pressure unit.

Series TS are suitable for filtered coolant only.

To reduce pump pressure, models TS22 to TS24 are also available with an optional Y/YY (Dahlander) motor configuration for 4 pole operation at half speed.

 Special versions of the TS pumps can be supplied for use with temperature controlling systems carrying thermal oils of up to 150° C resp. 200° C.

Applications

Types of fluid
coolants
cooling/cutting oils

Kinematic viscosity
...45 mm²/s (45 cSt)

Pumping temperature
0...80° C
...150° C (200° C) as special make (TS)

Construction

Pump body cast iron
Cover cast iron
Impellers brass
Shaft steel

Optional:
Pump body bronze (TS12...TS14, TS21...TS22)
Cover bronze (TS12...TS14, TS21...TS22)
Impellers CrNi-steel (TS12...TS22)

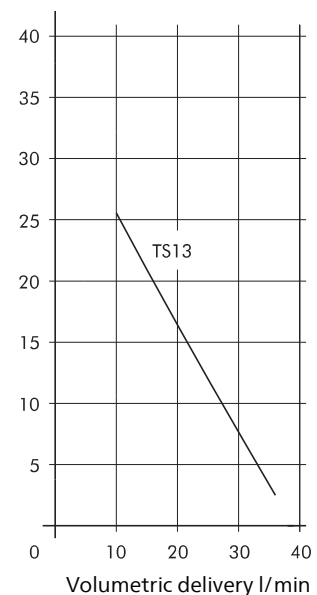
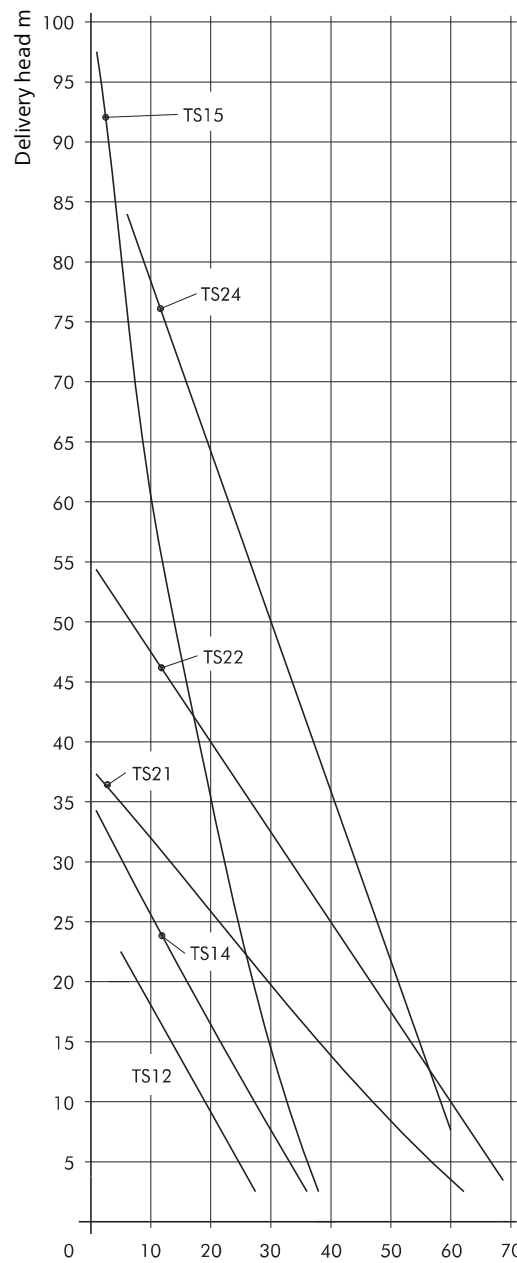
Noise level (Motor only; + 3 dBA)

TS12...TS14 54 dBA

TS21...TS22 64 dBA

TS15 66 dBA

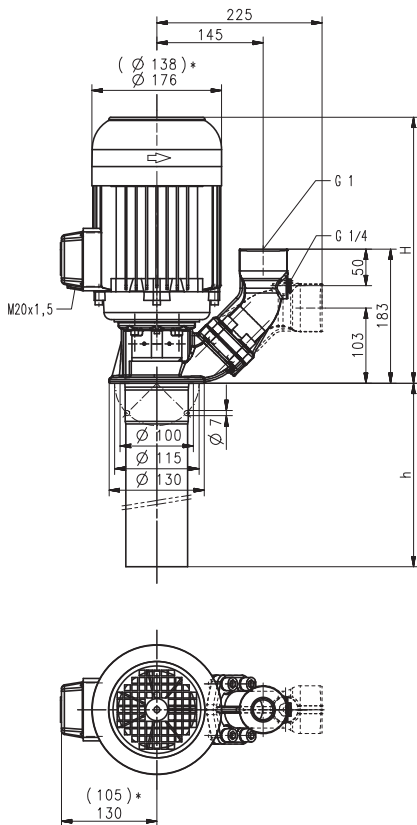
TS24 67 dBA



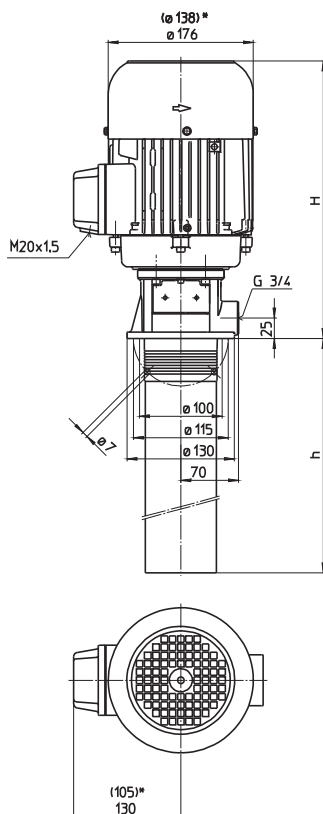
Immersion Pumps (S)TC25

Closed impellers

STC25/260...810



TC25/260...810



*) Dimensions for (S)TC25/260...805

Type	Vol. del. at manom. del. head l/min / m	Height H mm	Depth of im- mersion h mm	Weight kg	Power kW	Voltage 3 ~ V	Fre- quen- cy Hz	Current A	Speed 1/min
(S)TC25/260	10/28	276	260	11	0.48	220-240 380-415	50 50	2.06 1.19	2820 2820
(S)TC25/340	10/40	276	335	12	0.55	460	60	1.14	3405
(S)TC25/430	10/60	317	430	14	0.48	220-240 380-415	50 50	2.06 1.19	2820 2820
(S)TC25/550	10/85	345	565	16.5	0.55	460	60	1.14	3405
(S)TC25/805	10/110	345	810	18.5	0.63	220-240 380-415	50 50	2.70 1.56	2850 2850
(S)TC25/810	10/140	367	810	25	0.725	460	60	1.46	3425
					1.1	220-240 380-415	50 50	4.33 2.50	2850 2850
					1.27	460	60	2.4	3440
					1.1	220-240 380-415	50 50	4.33 2.50	2850 2850
					1.27	460	60	2.4	3440
					1.5	220-240 380-415	50 50	5.5 3.2	2880 2880
					1.75	460	60	3.1	3470

Immersion Pumps

Our multistage pump models (S)TC25... (S)TC460 have been especially developed to supply **internally cooled tools** with coolant fluid.

Closed impellers provide optimal hydraulic efficiencies while minimizing power consumption.

A **frequency converter** can be supplied for **special applications** or for matching the pump characteristic to a specific duty point.

See page "Control/Regulation" in the Technical Information section of this catalog for further information.

Extended length is possible. See medium pressure pumps features within the technical information section.

Applications

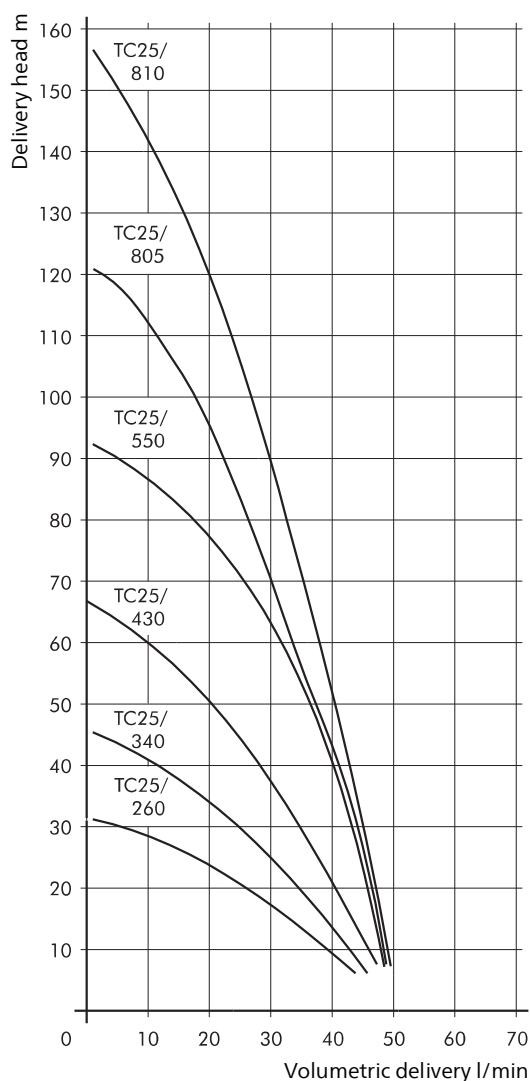
- Types of fluid
 - Industry water
 - coolants
 - cooling/cutting oils
- Kinematic viscosity
 - ...25 mm²/s (25 cSt)
- Pumping temperature
 - 0...60° C

Construction

Pump body	cast iron
Pump shell	steel
Cover	PBTP
Intake strainer	steel
Impellers	PBTP
Shaft	steel
Mechanical seal	SiC
O-rings	Viton
Optional:	
Pump body	CrNi-steel
Threaded inlet	G 1 ¼

Noise level (Motor only; + 3 dBA)

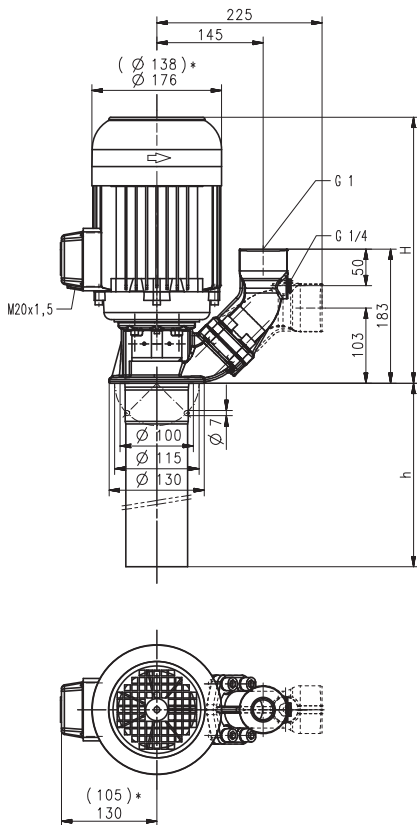
(S)TC25/260...(S)TC25/805	58 dBA
(S)TC25/810	63 dBA



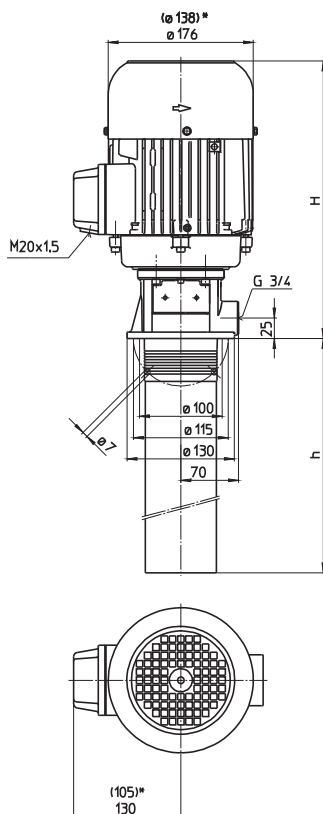
Immersion Pumps (S)TC40

Closed impellers

STC40/260...720



TC40/260...720



*) Dimensions for (S)TC40/260...550

Type	Vol. del. at manom. del. head l/min / m	Height H mm	Depth of im- mersion h mm	Weight kg	Power kW	Voltage 3 ~ V	Fre- quen- cy Hz	Current A	Speed 1/min
(S)TC40/260	25/28	276	260	11.5	0.48	220-240	50	2.06	2820
						380-415	50	1.19	2820
					0.55	460	60	1.14	3405
(S)TC40/340	25/42	317	335	13.5	0.63	220-240	50	2.70	2850
						380-415	50	1.56	2850
					0.725	460	60	1.46	3425
(S)TC40/430	25/60	318	430	15	0.85	220-240	50	3.64	2850
						380-415	50	2.10	2850
					0.98	460	60	2	3450
(S)TC40/550	25/80	345	550	16.5	1.1	220-240	50	4.33	2850
						380-415	50	2.50	2850
					1.27	460	60	2.4	3440
(S)TC40/715	25/95	367	720	24	1.5	220-240	50	5.5	2880
						380-415	50	3.2	2880
					1.75	460	60	3.1	3470
(S)TC40/720	25/120	393	720	26.5	1.7	220-240	50	6.24	2890
						380-415	50	3.60	2890
					1.95	460	60	3.5	3480

Immersion Pumps

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Closed impellers provide optimal hydraulic efficiencies while minimizing power consumption.

A **frequency converter** can be supplied for **special applications** or for matching the pump characteristic to a specific duty point.

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Extended length is possible. See medium pressure pumps features within the technical information section.

Applications

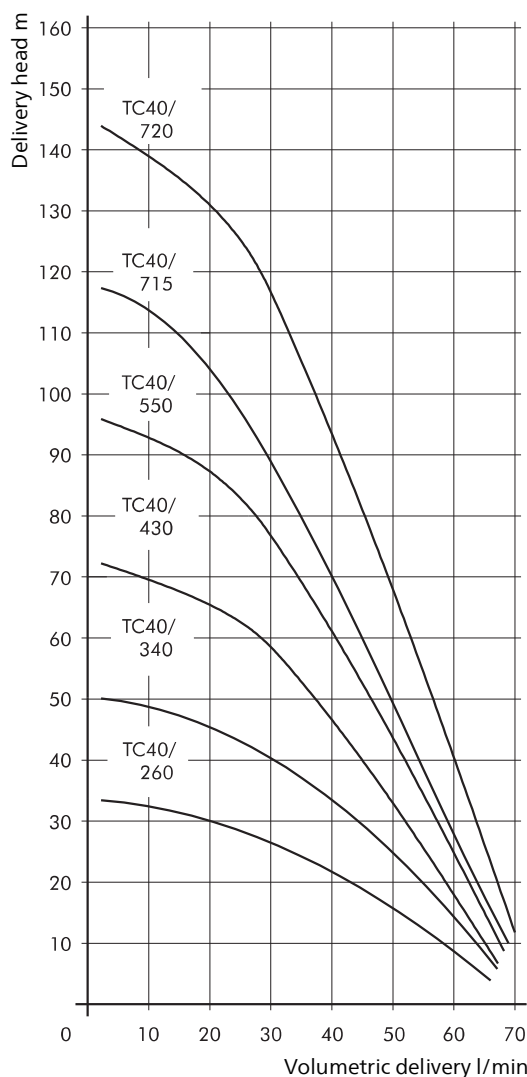
Types of fluid
 Industry water
 coolants
 cooling/cutting oils
 Kinematic viscosity
 ...25 mm²/s (25 cSt)
 Pumping temperature
 0...60° C

Construction

Pump body	cast iron
Pump shell	steel
Cover	PBTP
Intake strainer	steel
Impellers	PBTP
Shaft	steel
Mechanical seal	SiC
O-rings	Viton
Optional:	
Pump body	CrNi-steel
Threaded inlet	G 1 ¼

Noise level (Motor only; + 3 dBA)

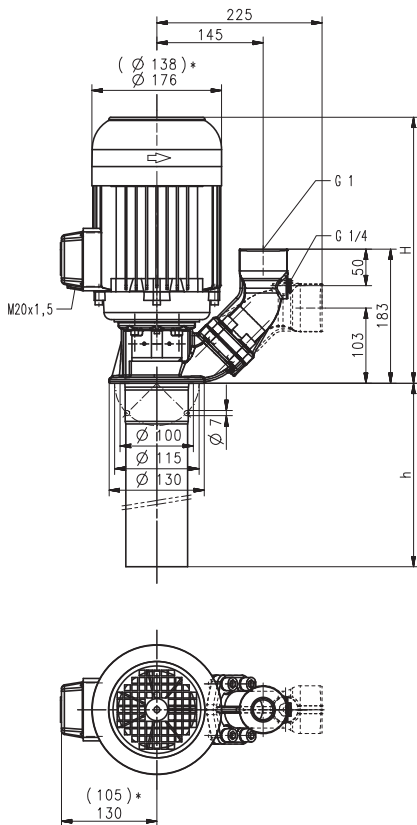
(S)TC40/260...(S)TC40/550	58 dBA
(S)TC40/715...(S)TC40/720	63 dBA



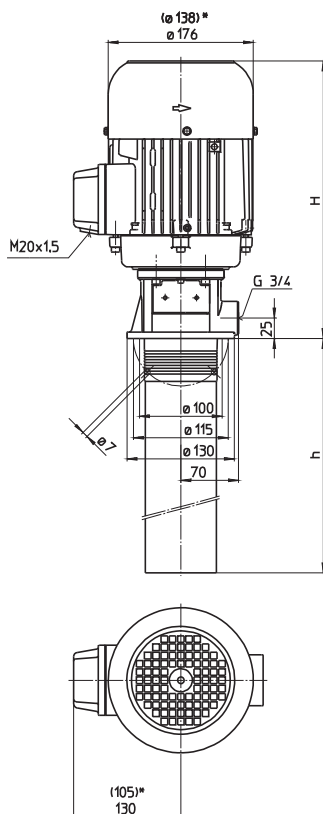
Immersion Pumps (S)TC63

Closed impellers

STC63/270...750



TC63/270...750



*) Dimensions for (S)TC63/270...350

Type	Vol. del. at manom. del. head l/min / m	Height H mm	Depth of immersion h mm	Weight kg	Power kW	Voltage 3 ~ V	Fre- quen- cy Hz	Current A	Speed 1/min
(S)TC63/270	60/22	318	275	13.5	0.75	220-240	50	3.24	2850
						380-415	50	1.87	2850
					0.86	460	60	1.85	3440
(S)TC63/350	60/30	318	340	15	0.92	220-240	50	3.8	2840
						380-415	50	2.2	2840
					1.06	460	60	2.1	3440
(S)TC63/440	60/40	367	440	22	1.3	220-240	50	4.85	2900
						380-415	50	2.80	2900
					1.49	460	60	2.7	3500
(S)TC63/560	60/55	425	565	28	1.9	220-240	50	6.84	2900
						380-415	50	3.95	2900
					2.18	460	60	3.9	3500
(S)TC63/745	60/77	425	755	30	2.2	220-240	50	7.8	2890
						380-415	50	4.5	2890
					2.55	460	60	4.4	3480
(S)TC63/750	60/90	425	755	31	2.6	220-240	50	9.30	2880
						380-415	50	5.35	2880
					2.94	460	60	5.1	3480

Immersion Pumps

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Closed impellers provide optimal hydraulic efficiencies while minimizing power consumption.

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Extended length is possible. See medium pressure pumps features within the technical information section.

Applications

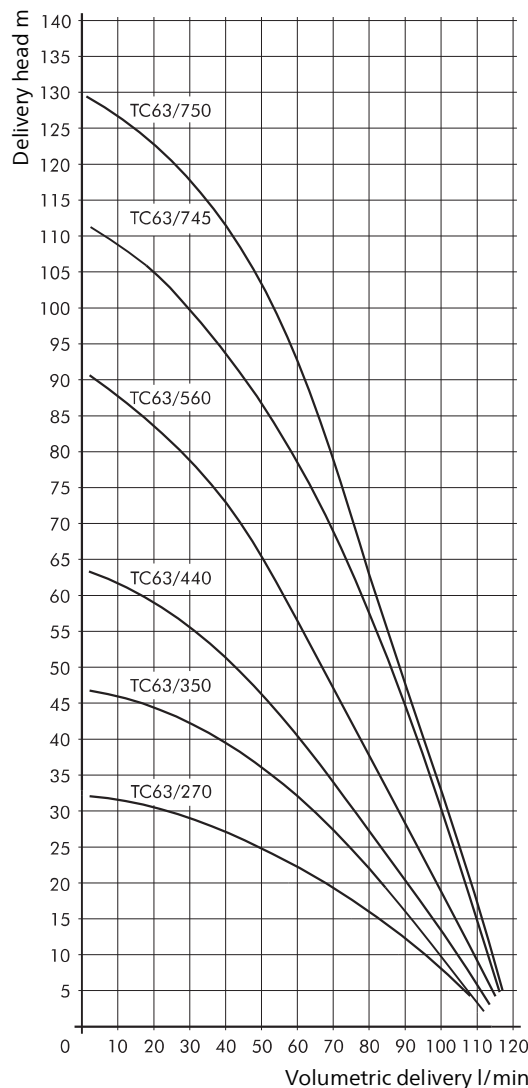
- Types of fluid
 - Industry water
 - coolants
 - cooling/cutting oils
- Kinematic viscosity
 - ...45 mm²/s (45 cSt)
- Pumping temperature
 - 0...60° C

Construction

Pump body	cast iron
Pump shell	steel
Cover	PBTP
Intake strainer	steel
Impellers	PBTP
Shaft	steel
Mechanical seal	SiC
O-rings	Viton

Optional:	
Pump body	CrNi-steel
Threaded inlet	G 1 ¼

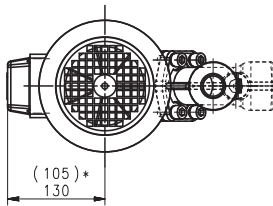
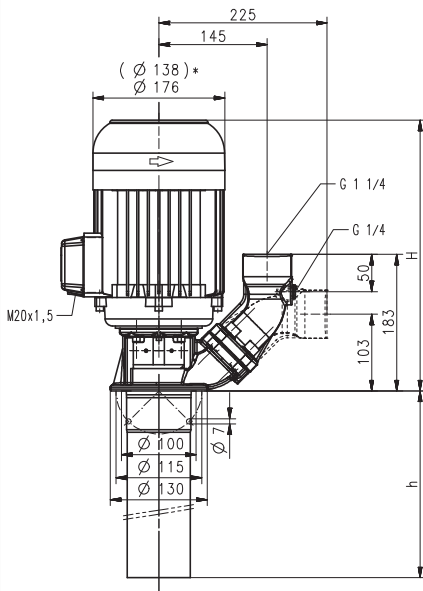
Noise level (Motor only; + 3 dBA)	
(S)TC63/270...(S)TC63/350	58 dBA
(S)TC63/440...(S)TC63/750	63 dBA



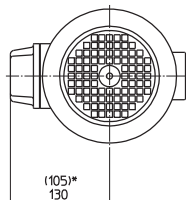
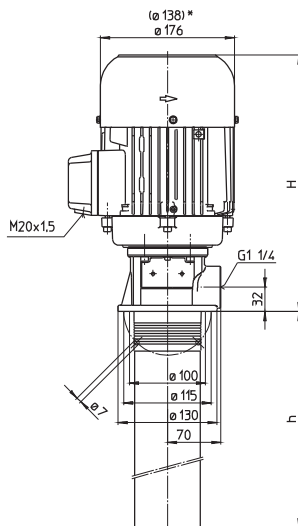
Immersion Pumps (S)TC160

Closed impellers

STC160/330...740



TC160/330...740



*) Dimensions for (S)TC160/330

Type	Vol. del. at manom. del. head l/min / m	Height H mm	Depth of immersion h mm	Weight kg	Power kW	Voltage 3 ~ V	Fre- quen- cy Hz	Current A	Speed 1/min
(S)TC160/330	160/15	345	325	15	1.1	220-240 380-415	50 50	4.33 2.50	2850 2850
(S)TC160/430	160/27	393	425	23	1.27	460	60	2.4	3440
(S)TC160/580	160/40	425	580	29	1.7	220-240 380-415	50 50	6.24 3.60	2890 2890
(S)TC160/740	160/52	425	735	30	1.95	460	60	3.5	3480
					2.2	220-240 380-415	50 50	7.8 4.5	2890 2890
					2.55	460	60	4.4	3480
					2.6	220-240 380-415	50 50	9.30 5.35	2880 2880
					2.94	460	60	5.1	3480

Immersion Pumps

Our multistage pump models (S)TC25... (S)TC460 have been especially developed to supply **internally cooled tools** with coolant fluid.

Closed impellers provide optimal hydraulic efficiencies while minimizing power consumption.

A **frequency converter** can be supplied for **special applications** or for matching the pump characteristic to a specific duty point.

See page "Control/Regulation" in the Technical Information section of this catalog for further information.

Extended length is possible. See medium pressure pumps features within the technical information section.

Applications

- Types of fluid
 - Industry water
 - coolants
 - cooling/cutting oils
- Kinematic viscosity
 - ...45 mm²/s (45 cSt)
- Pumping temperature
 - 0...60° C

Construction

Pump body	cast iron
Pump shell	steel
Cover	PBTP
Intake strainer	steel
Impellers	PBTP
Shaft	steel
Mechanical seal	SiC
O-rings	Viton
Optional:	
Pump body	CrNi-steel
Threaded inlet	G 1 ¼

Noise level (Motor only; + 3 dBA)

(S)TC160/330	58 dBA
(S)TC160/430...(S)TC160/740	63 dBA

