KNOLL
.It works

Kreiselpumpen
Centrifugal Pumps

Die KNOLL-Kreiselpumpe steht für viele Vorteile.
The KNOLL centrifugal pump type T has many advantages.

1. **Sehr hoher Wirkungsgrad durch strömungstechnisch günstig geformtes Laufrad**

very high efficiency because of flow favorable formed impeller

2. **Hohe Belastbarkeit aufgrund solider Wellen-Nabenverbindung**

high rigidity with its solid shaft-hub connection

3. **Sehr hohe Lebenszeit mit robustem Gusseisen-Gehäuse**

very long life-time with the sturdy cast-iron housing

4. **Kostengünstige Fertigung durch modularen Aufbau**

less production costs because of modular design

Anwendungsbereiche

KNOLL-Kreiselpumpen sind Tauchpumpen, die auf drucklose Behälter oder Schächte montiert werden und in das Medium eintauchen.

- Vorwiegend geeignet zum Fördern von Kühlschmiermitteln (Wasser, Emulsion, Öl) und Waschwasser mit Korngrößen bis 30 mm und $\upsilon < 30$ mm²/s
- Eingesetzt an Werkzeugmaschinen zur Kühlschmiermittelversorgung und -reinigung sowie an Reinigungs-/Entfettungsanlagen
- Maximale Leistungsdaten
  Q= 96 m³/h (1600 l/min)
  p= 6 bar
  T= 60 °C

Konstruktion

Bauart
Vertikale Kreiselpumpe mit folgenden Merkmalen:
- Normalsaugend, einstufig, dichtungslos
- Verlängerte, fliegend gelagerte Motorwelle mit Spritzring
- Druckstufen radial, nach oben abgewinkelt, Saugstutzen axial
- Laufrad geschlossen (Baureihe TG) oder offen (Baureihe TF)
- Mit Pumpenblech und Druckrohr

Antrieb
Drehstrom-Kurzschlussläufermotor
- Bauart V 18, Schutzart IP 54, Isolierstoffklasse B
- 220-240 V (Δ) / 380-420 V (Y), 50 Hz, 2900 min⁻¹
- 220-265 V (Δ) / 380-460 V (Y), 60 Hz, 3500 min⁻¹

Werkstoffe

• Motorwelle	E 335 (St 60-2)
• Pumpenblech	S 235 JR (St 37-2)
• Motorlaterne	GJL-200 (GG 20)
• Spiralgehäuse	GJL-200 (GG 20)
• Gehäusedeckel	GJL-200 (GG 20)
• Laufrad	POM oder GJL-250 (GG 25)

5.

Trockenlaufsicherheit durch fliegend gelagerte Welle

safe of dry running because of taper bore mounting

6.

Lange Lebensdauer dank Normmotor mit verlängerter Welle

long life-time because of a standard motor with an extended shaft

Range of application

KNOLL centrifugal pumps are suitable for immersion into the medium. They can be mounted on pressureless tanks or chutes.

- *Mainly suitable for conveying cooling lubricant (water, emulsion, oil) and washings containing grain sizes up to 30 mm and $\upsilon < 30\ mm^2/s$*
- *Applied at machine tools for supply with cleaning of cooling lubricant as well as application on cleaning equipment and degreasing units*
- *Maximum performance data*
  $Q = 93\ m^3/h$ (1600 l/min)
  $p = 6$ bar
  $T = 60\ °C$

Construction

Type

Vertical centrifugal pump showing the following characteristics:

- *Normal suction, single stage, without sealing*
- *Extended taper bore mounted motor axle without sealing*
- *Pressure connection is radial and bent upwards, suction connection is axial*
- *Impeller closed (type TG) or open (type TF)*
- *With pump plate and pressure pipe*

Drive

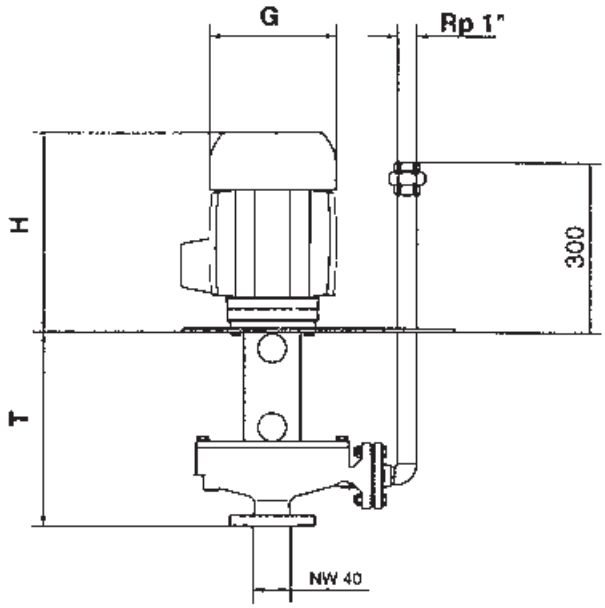
Three-phase squirrel-cage motor

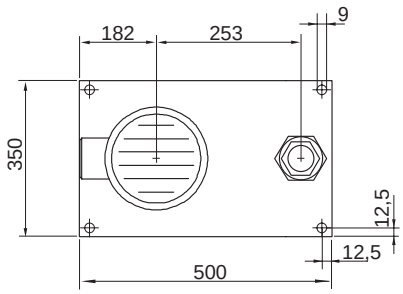
- *Type V 18, protection IP 54, insulated material class B*
- *220-240 V (Δ) / 380-420 V (Y), 50 Hz, 2900 min^{-1}*
- *220-265 V (Δ) / 380-460 V (Y), 60 Hz, 3500 min^{-1}*

Material

• *Motor shaft*	*E 335 (St 60-2)*
• *Pump plate*	*S 235 JR (St 37-2)*
• *Motor latern*	*GJL-200 (GG 20)*
• *Spiral casing*	*GJL-200 (GG 20)*
• *Housing cover*	*GJL-200 (GG 20)*
• *Impeller*	*POM or GJL-250 (GG 25)*

TG 25



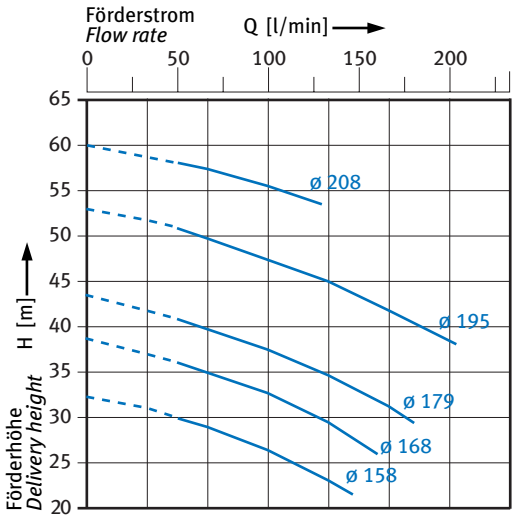


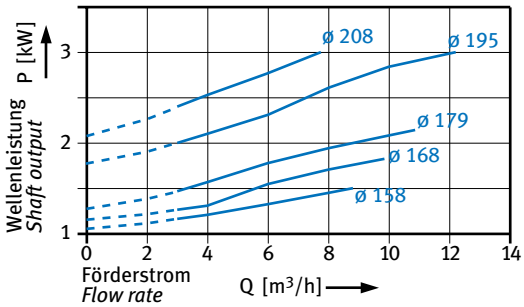
Typ/*Type*	T[1)]	H	G	Gewicht (kg) *Weight*	Leistung (kW) *Power*
TG 25-../22 345	345	320	180	47	2,2
TG 25-../30 345	345	350	200	49	3,0
TG 25-../22 590	590	320	180	51	2,2
TG 25-../30 590	590	350	200	53	3,0

Beispiel: Laufrad-Ø = 158--› TG 25-58/22 345

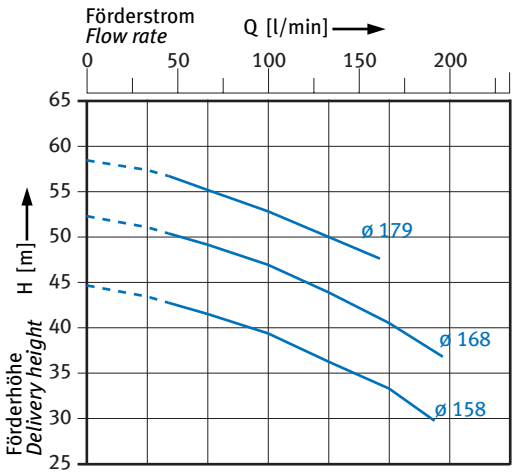
Example: Impeller-Ø = 158--› TG 25-58/22 345

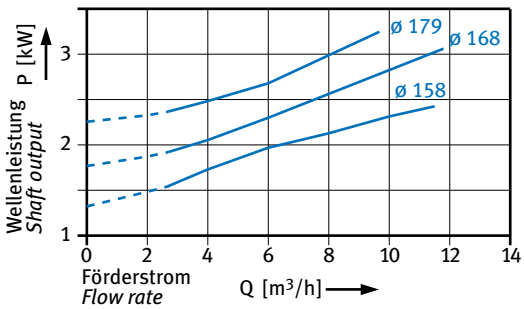
Nenndrehzahl /
***Nominal rotation speed* 2900 min⁻¹ @ 50Hz**





Nenndrehzahl /
***Nominal rotation speed* 3500 min⁻¹ @ 60Hz**





Max. Korngröße: 1 mm
Laufrad-Werkstoff: GJL-250 (GG 25)
Kennlinien für υ = 1 mm²/s
1) Maße in mm

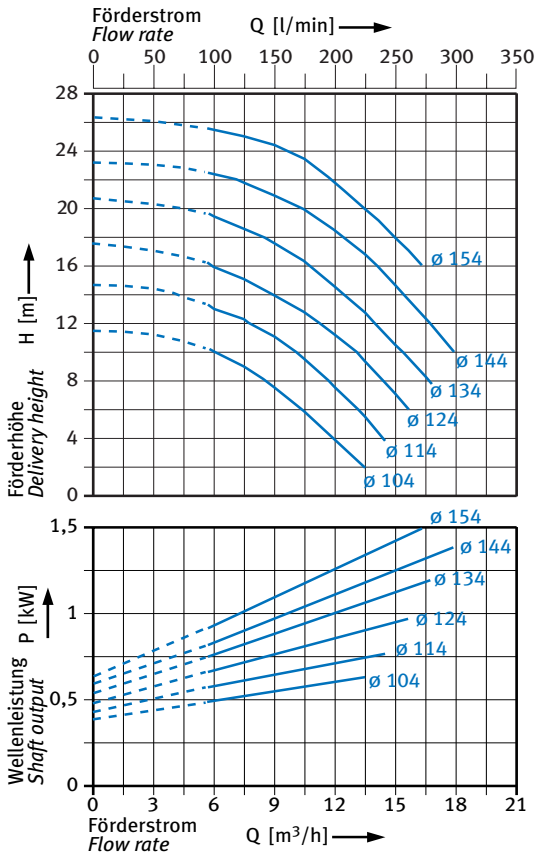
Max. grain size: 1 mm
Impeller material: GJL-250 (GG 25)
Characteristic lines for υ= 1 mm²/s
1) Dimensions in mm

TG 25-58/22 345
- Tauchpumpe
- Laufradform
- Baugröße
- Laufrad-Index
- Motorleistung x 10
- Eintauchtiefe in mm

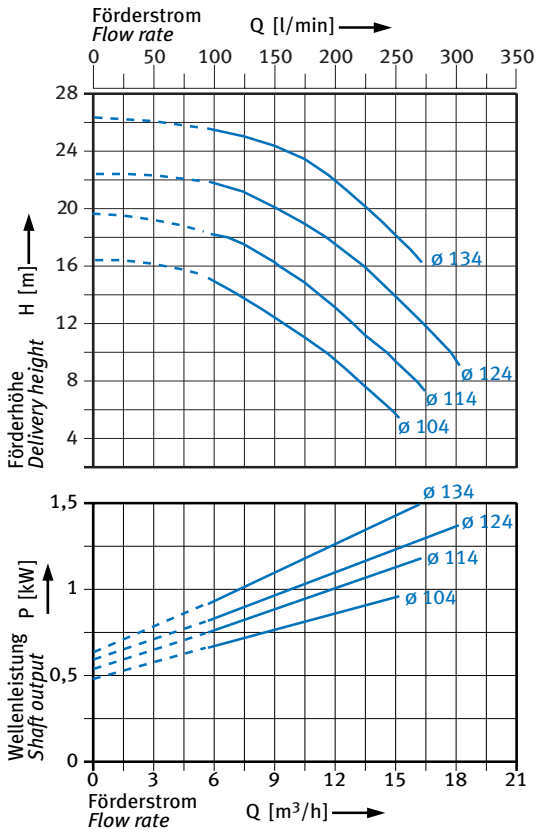
TG 25-58/22 345
- *Submerged pump*
- *Form of impeller*
- *Pump size*
- *Impeller-index*
- *Motor power x 10*
- *Depth of immersion in mm*

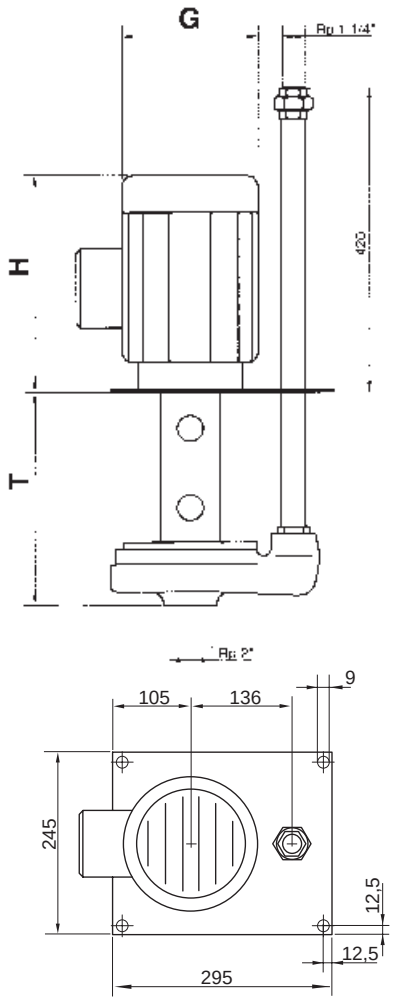
TG 30

Nenndrehzahl / *Nominal rotation speed* 2900 min⁻¹ @ 50Hz



Nenndrehzahl / *Nominal rotation speed* 3500 min⁻¹ @ 60Hz





Typ/*Type*	T[1)]	H	G	Gewicht *Weight* (kg)	Leistung *Power* (kW)
TG 30-../07 285	285	270	160	23	0,75
TG 30-../11 285	285	270	160	24	1,1
TG 30-../15 285	285	290	180	27	1,5
TG 30-../07 533	533	270	160	30	0,75
TG 30-../11 533	533	270	160	31	1,1
TG 30-../15 533	533	290	180	34	1,5

Beispiel: Laufrad-Ø = 154 --› TG 30-54/15285

Example: Impeller-Ø = 154 --› TG 30-54/15285

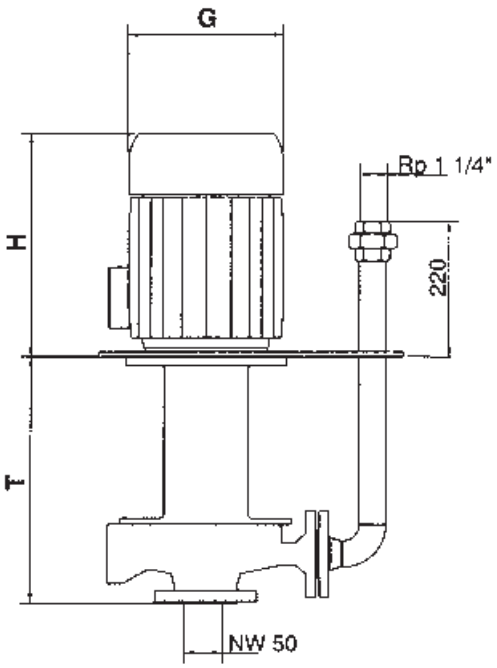
Max. Korngröße: 1 mm
Laufrad-Werkstoff: POM
Kennlinien für υ = 1 mm²/s
1) Maße in mm

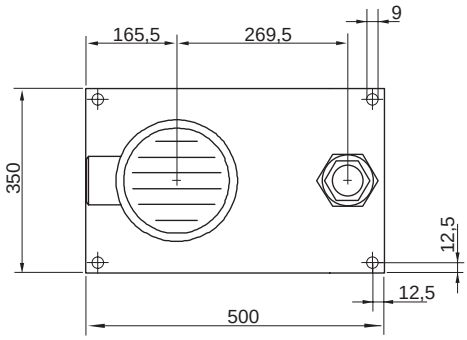
Max. grain size: 1 mm
Impeller material: POM
Characteristic lines for υ= 1 mm²/s
1) Dimensions in mm

Tauchpumpe — TG 30-54/15 285
Laufradform
Baugröße
Laufrad-Index
Motorleistung x 10
Eintauchtiefe in mm

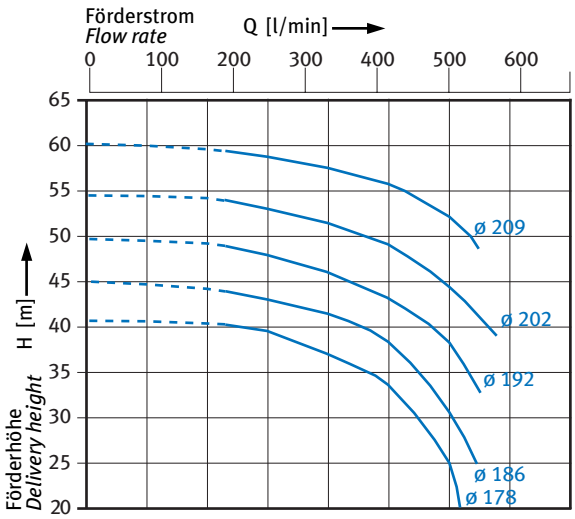
Submerged pump — TG 30-54/15 285
Form of impeller
Pump size
Impeller-index
Motor power x 10
Depth of immersion in mm

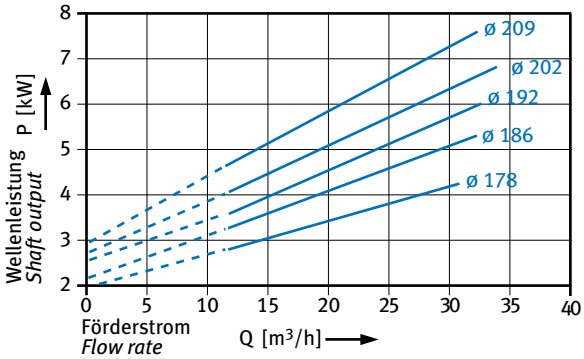
TG 32



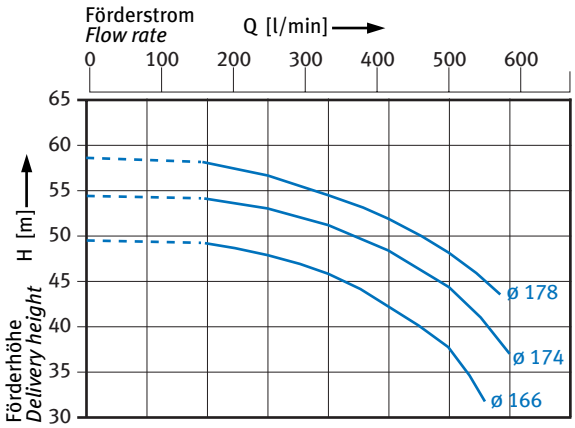


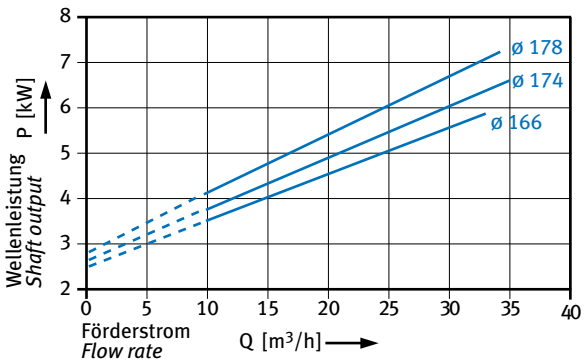
Nenndrehzahl / *Nominal rotation speed* 2900 min⁻¹ @ 50Hz





Nenndrehzahl / *Nominal rotation speed* 3500 min⁻¹ @ 60Hz





Typ/*Type*	T¹⁾	H	G	Gewicht (kg) *Weight*	Leistung (kW) *Power*
TG 32-../55 400	400	370	252	100	5,5
TG 32-../75 400	400	370	252	106	7,5

Beispiel: Laufrad-Ø = 178--› TG 32-78/75 400

Example: Impeller-Ø = 178--› TG 32-78/75 400

Max. Korngröße: 2 mm
Laufrad-Werkstoff: GJL-250 (GG 25)
Kennlinien für υ = 1 mm²/s
1) Maße in mm

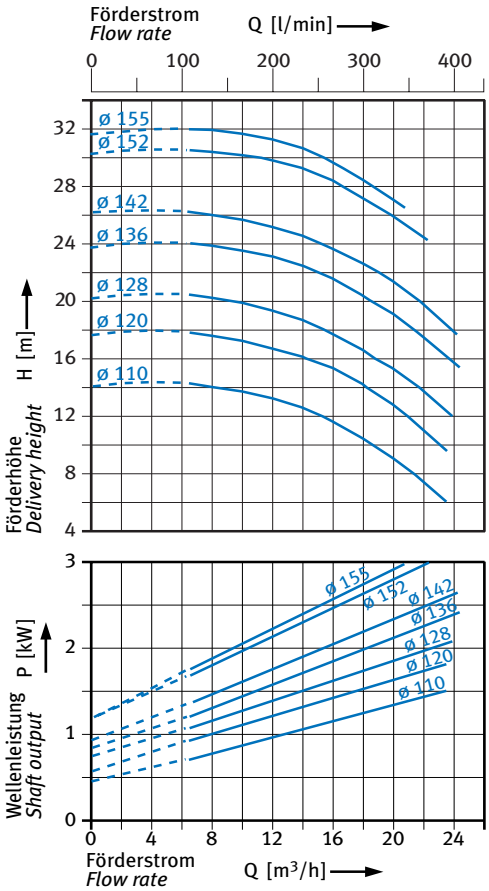
Max. grain size: 2 mm
Impeller material: GJL-250 (GG 25)
Characteristic lines for υ= 1 mm²/s
1) Dimensions in mm

TG 32-78/75 400
Tauchpumpe
Laufradform
Baugröße
Laufrad-Index
Motorleistung x 10
Eintauchtiefe in mm

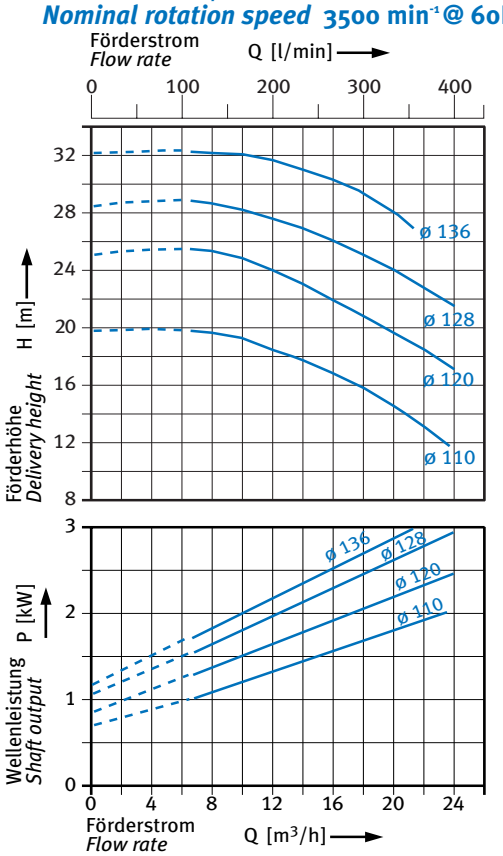
TG 32-78/75 400
Submerged pump
Form of impeller
Pump size
Impeller-index
Motor power x 10
Depth of immersion in mm

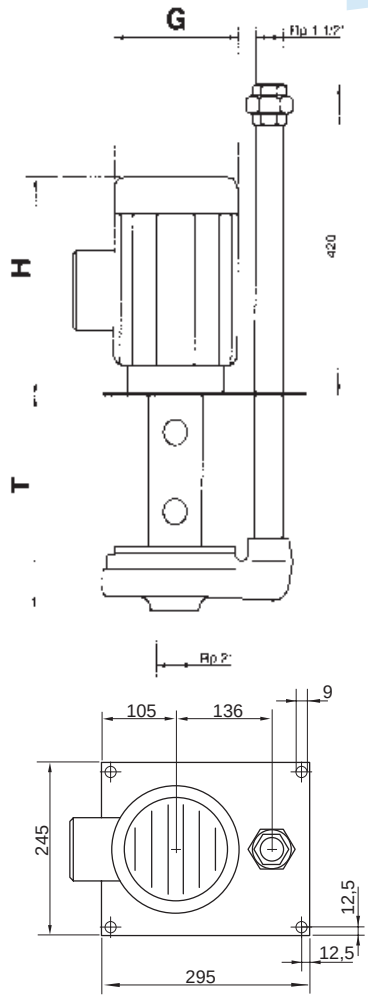
TG 40

Nenndrehzahl / *Nominal rotation speed* 2900 min⁻¹ @ 50Hz



Nenndrehzahl / *Nominal rotation speed* 3500 min⁻¹ @ 60Hz





Typ/*Type*	T¹⁾	H	G	Gewicht (kg) *Weight*	Leistung (kW) *Power*
TG 40-../11 285	285	270	160	25	1,1
TG 40-../15 285	285	290	180	28	1,5
TG 40-../22 285	285	320	180	31	2,2
TG 40-../30 285	285	350	200	35	3,0
TG 40-../11 533	533	270	160	32	1,1
TG 40-../15 533	533	290	180	35	1,5
TG 40-../22 533	533	320	180	38	2,2
TG 40-../30 533	533	350	200	42	3,0

Beispiel: Laufrad-Ø = 155--› TG 40-55/30285

Example: Impeller-Ø = 155--› TG 40-55/30285

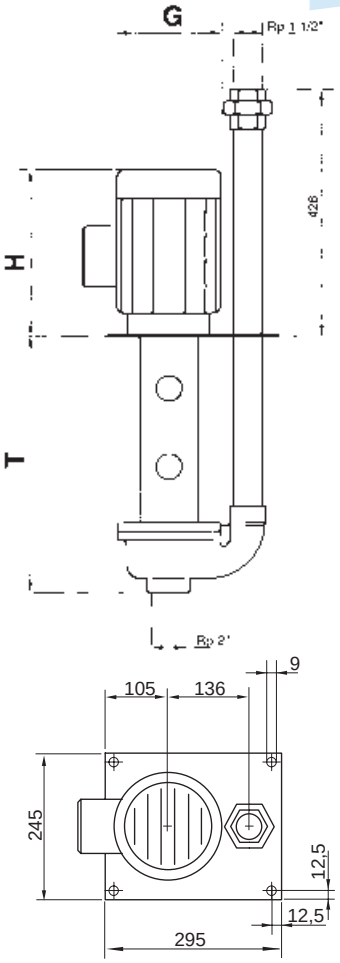
Tauchpumpe — TG 40-55/30 285
Laufradform
Baugröße
Laufrad-Index
Motorleistung x 10
Eintauchtiefe in mm

Submerged pump — TG 40-55/30 285
Form of impeller
Pump size
Impeller-index
Motor power x 10
Depth of immersion in mm

Max. Korngröße: 3 mm
Laufrad-Werkstoff: POM
Kennlinien für υ = 1 mm²/s
1) Maße in mm

Max. grain size: 3 mm
Impeller material: POM
Characteristic lines for υ= 1 mm²/s
1) Dimensions in mm

TF 40



Typ/*Type*	T[1)]	H	G	Gewicht (kg) *Weight*	Leistung (kW) *Power*
TF 40-../07 330	330	270	160	26	0,75
TF 40-../11 330	330	270	160	27	1,1
TF 40-../15 330	330	290	180	30	1,5
TF 40-../22 330	330	320	180	33	2,2
TF 40-../30 330	330	350	200	37	3,0
TF 40-../07 578	578	270	160	33	0,75
TF 40-../11 578	578	270	160	34	1,1
TF 40-../15 578	578	290	180	37	1,5
TF 40-../22 578	578	320	180	40	2,2
TF 40-../30 578	578	350	200	44	3,0

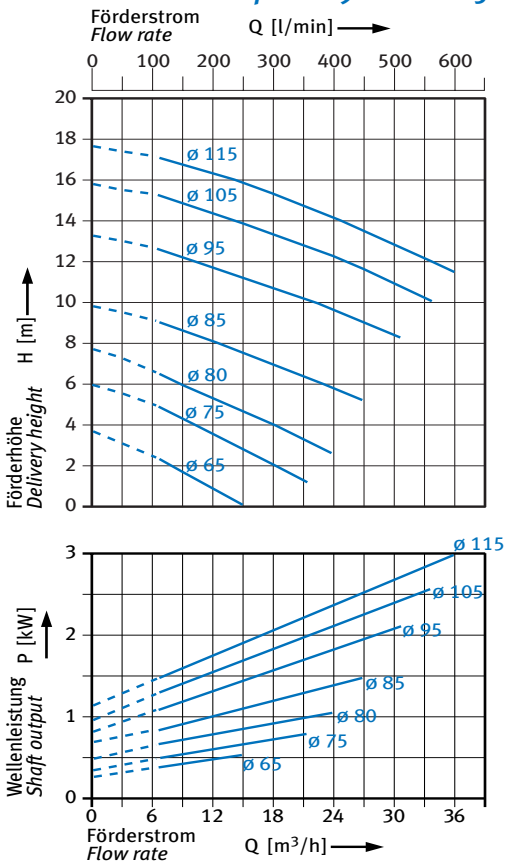
Beispiel: Laufrad-Ø = 115 --› TF 40-15/30 330

Example: Impeller-Ø = 115 --› TF 40-15/30 330

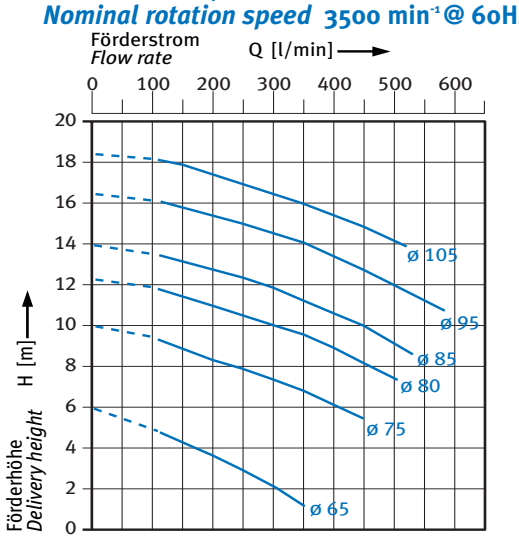
Max. Korngröße: 15 mm
Laufrad-Werkstoff: POM
Kennlinien für υ = 1 mm²/s
1) Maße in mm

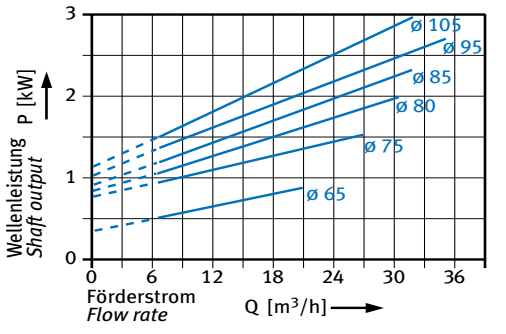
Max. grain size: 15 mm
Impeller material: POM
Characteristic lines for υ= 1 mm²/s
1) Dimensions in mm

Nenndrehzahl /
***Nominal rotation speed* 2900 min⁻¹ @ 50Hz**



Nenndrehzahl /
***Nominal rotation speed* 3500 min⁻¹ @ 60Hz**



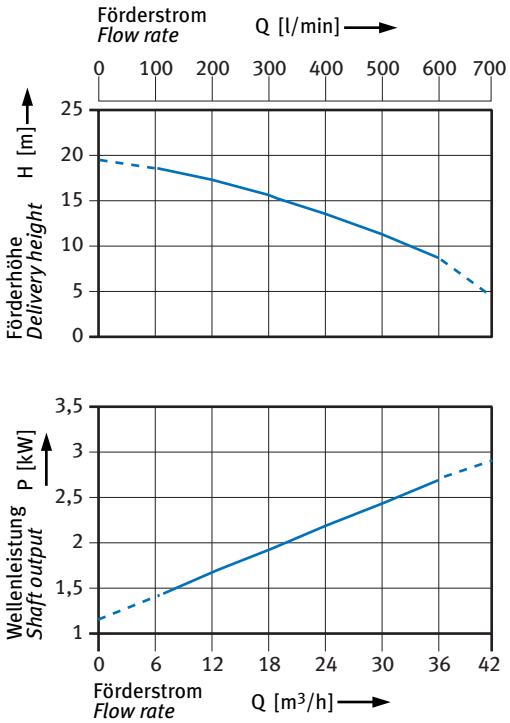


Tauchpumpe — TF 40-15/30 330
Laufradform
Baugröße
Laufrad-Index
Motorleistung x 10
Eintauchtiefe in mm

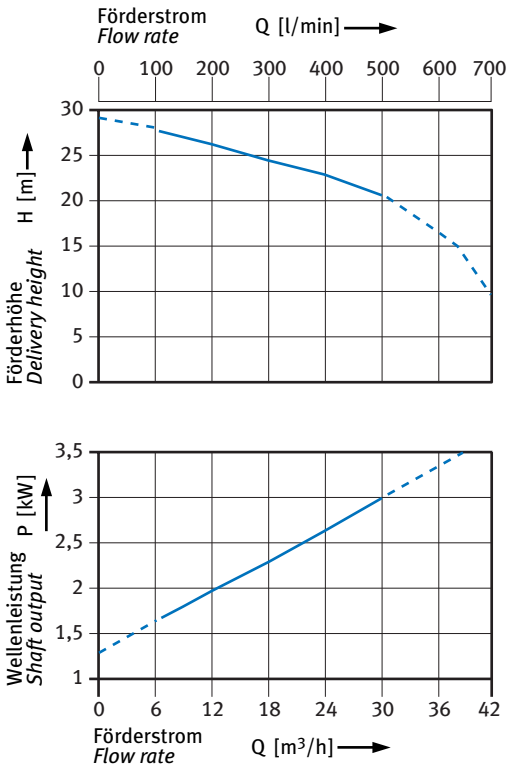
Submerged pump — TF 40-15/30 330
Form of impeller
Pump size
Impeller-index
Motor power x 10
Depth of immersion in mm

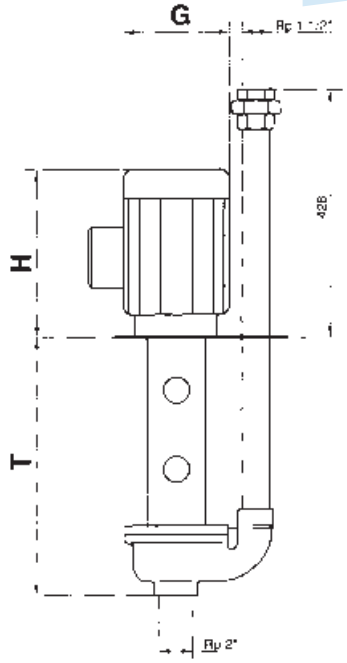
TS 40

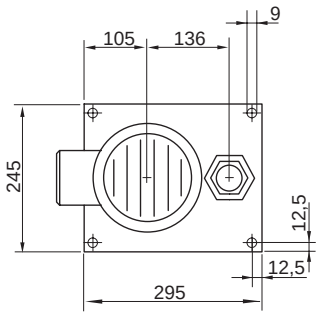
Nenndrehzahl / *Nominal rotation speed* 2900 min^{-1} @ 50Hz



Nenndrehzahl / *Nominal rotation speed* 3500 min^{-1} @ 60Hz







Typ/*Type*	T[1)]	H	G	Gewicht *Weight* (kg)	Leistung *Power* (kW)
TS 40-21/22 338	338	320	180	33	2,2
TS 40-21/30 338	338	350	200	37	3
TS 40-21/22 586	586	320	180	40	2,2
TS 40-21/30 586	586	350	200	44	3

Beispiel: Laufrad-Ø = 121--› TS 40-21/30338

Example: Impeller-Ø = 121--› TS 40-21/30338

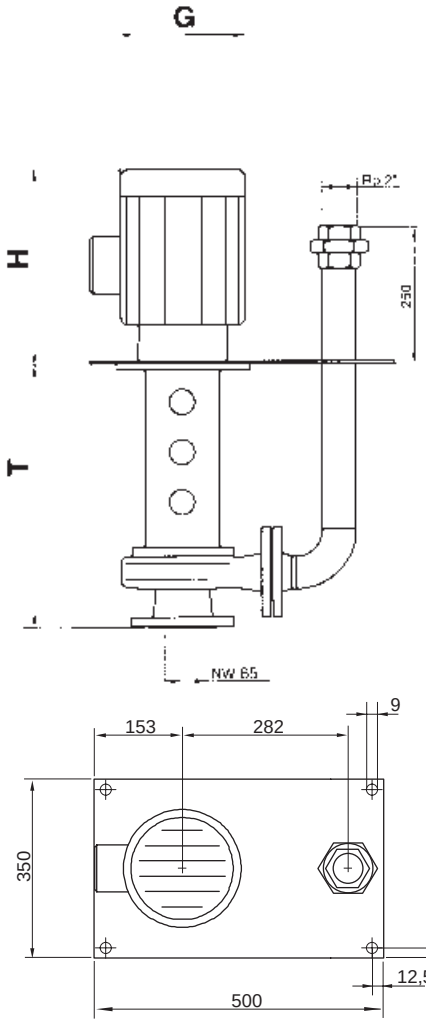
Tauchpumpe — TS 40-21/30 338
Laufradform
Baugröße
Laufrad-Index
Motorleistung x 10
Eintauchtiefe in mm

Submerged pump — TS 40-21/30 338
Form of impeller
Pump size
Impeller-index
Motor power x 10
Depth of immersion in mm

Max. Korngröße: 15 mm
Laufrad-Werkstoff: St
Kennlinien für υ = 1 mm²/s
1) Maße in mm

Max. grain size: 15 mm
Impeller material: St
Characteristic lines for υ= 1 mm²/s
1) Dimensions in mm

TG 50



Typ/*Type*	T[1)]	H	G	Gewicht (kg) *Weight*	Leistung (kW) *Power*
TG 50-../40 480	480	355	224	68	4,0
TG 50-../55 480	480	355	224	78	5,5
TG 50-../40 840	840	355	224	75	4,0
TG 50-../55 840	840	355	224	85	5,5

Beispiel: Laufrad-Ø = 128--› TG 50-28/55 480

Example: Impeller-Ø = 128--› TG 50-28/55 480

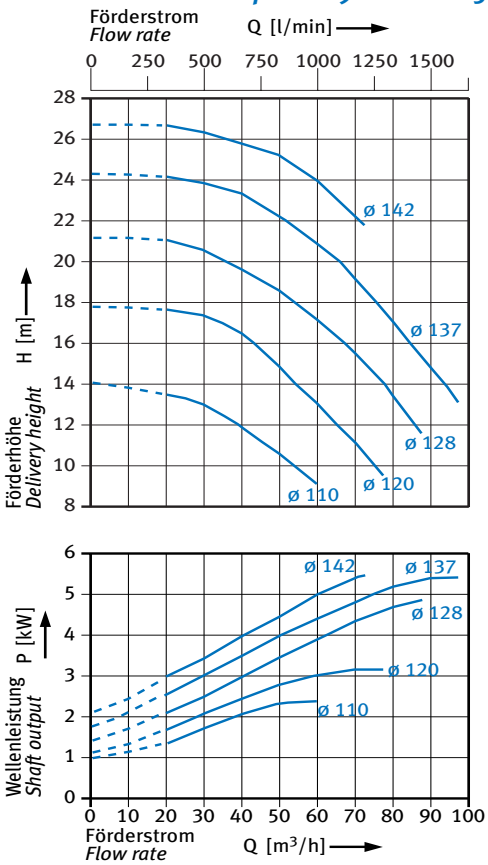
Max. Korngröße: 15 mm
Laufrad-Werkstoff: GJL-250 (GG 25)
Kennlinien für υ = 1 mm²/s
1) Maße in mm

Max. grain size: 15 mm
Impeller material: GJL-250 (GG 25)
Characteristic lines for υ= 1 mm²/s
1) Dimensions in mm

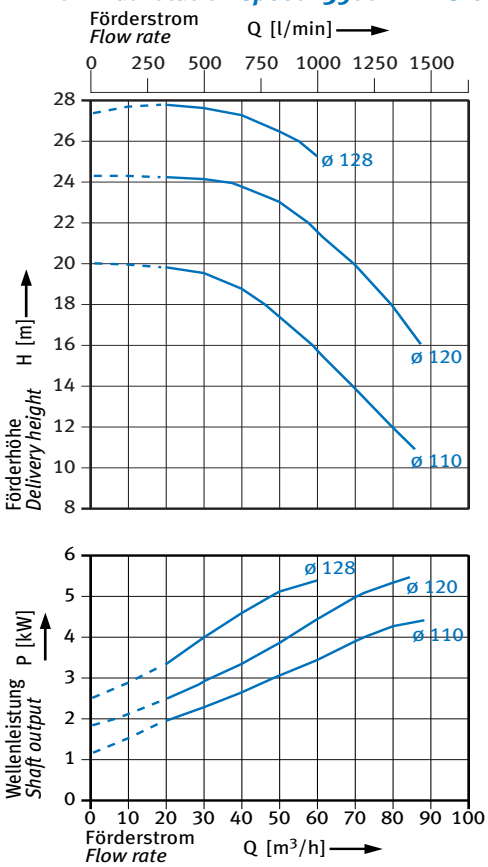
Tauchpumpe — TG 50-28/55 480
Laufradform
Baugröße
Laufrad-Index
Motorleistung x 10
Eintauchtiefe in mm

Submerged pump — TG 50-28/55 480
Form of impeller
Pump size
Impeller-index
Motor power x 10
Depth of immersion in mm

Nenndrehzahl / *Nominal rotation speed* 2900 min⁻¹ @ 50Hz

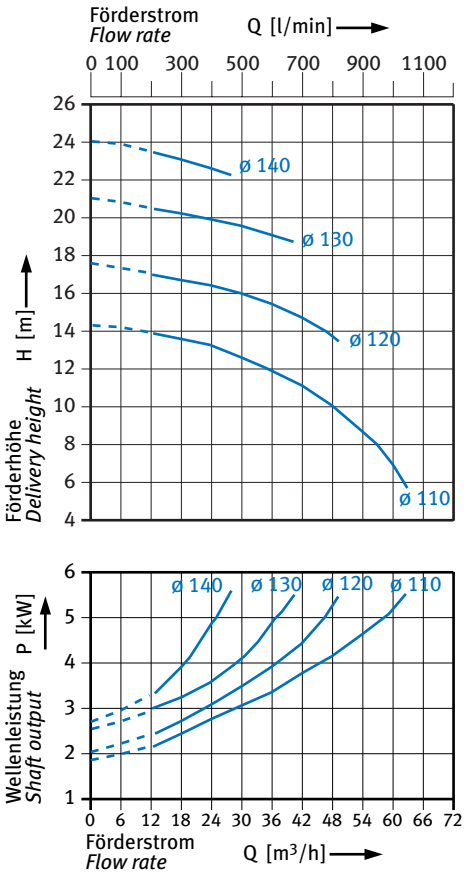


Nenndrehzahl / *Nominal rotation speed* 3500 min⁻¹ @ 60Hz

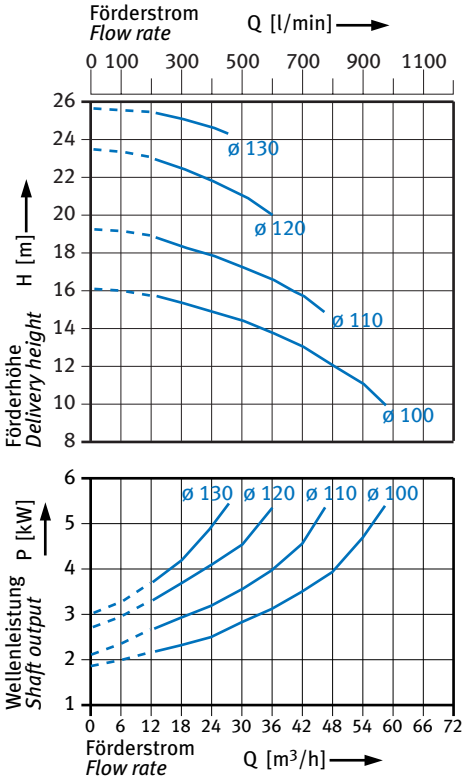


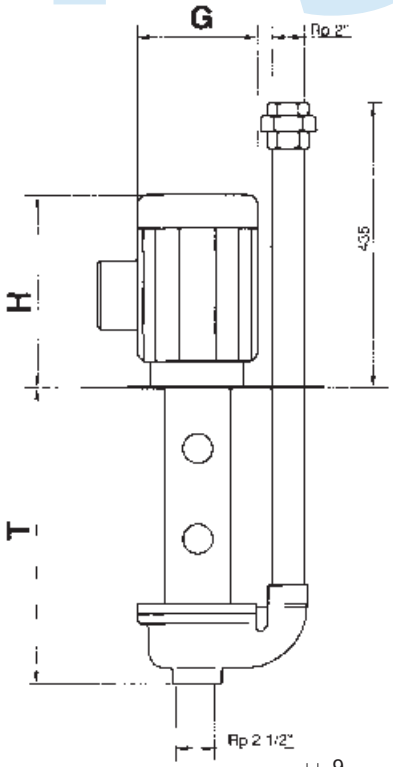
TF 50

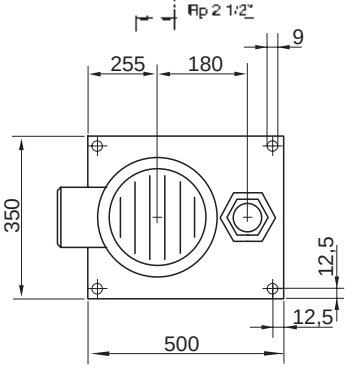
Nenndrehzahl / *Nominal rotation speed* 2900 min^{-1} @ 50Hz



Nenndrehzahl / *Nominal rotation speed* 3500 min^{-1} @ 60Hz







Typ/*Type*	T[1]	H	G	Gewicht (kg) *Weight*	Leistung (kW) *Power*
TF 50-../40 488	488	355	224	68	4,0
TF 50-../55 488	488	355	224	78	5,5
TF 50-../40 848	848	355	224	75	4,0
TF 50-../55 848	848	355	224	85	5,5

Beispiel: Laufrad-Ø = 140--› TF 50-40/55 488

Example: Impeller-Ø = 140--› TF 50-40/55 488

Max. Korngröße: 30 mm
Laufrad-Werkstoff: GJL-250 (GG 25)
Kennlinien für υ = 1 mm²/s
1) Maße in mm

Max. grain size: 30 mm
Impeller material: GJL-250 (GG 25)
Characteristic lines for υ= 1 mm²/s
1) Dimensions in mm

Tauchpumpe — TF 50-40/55 488
Laufradform
Baugröße
Laufrad-Index
Motorleistung x 10
Eintauchtiefe in mm

Submerged pump — TF 50-40/55 488
Form of impeller
Pump size
Impeller-index
Motor power x 10
Depth of immersion in mm

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Distributeur et maintenance

Atelier certifié pour la réparation des pompes soumises à réglementation ATEX

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