

OUR REF. NO: DQH/2K2409022/CG/SSA

DATE: 02-09-2024

M/s. Fleming Labs  
No 131, Ground Floor, Green Park Avenue  
Jeedimetla, Hyderabad, Telangana  
Mob: 7670948755.  
Email Id : projectsfls@fleminglabs.com  
Kind Attn : Mr. Asisraja - Project engineer



Dear Sir,

Subject: Quotation for KSB Make pumps

Ref : Your mail enquiry for Cooling Tower application

With reference to the above we are pleased to submit our offer as given below.

kindly revert back in case of any clarification and also for more information on the product & services

Please visit our website [www.derazengineers.com](http://www.derazengineers.com)

**TERMS AND CONDITIONS:**

**NOTE: THE TERMS OF SALE IS AS PER OUR OFFER, NO OTHER TERMS ARE ACCEPTABLE**

- 01) PRICES** - For Ex stock our works ( Hyderabad ) & For no stock our principle work.
- 02) TAXES** - GST @ 18% EXTRA ( HSN Code : 84137091 )
- 03) P & F** - @3% Extra
- 04) DELIVERY** - Ex Stock subject to sale, No stock Within 08 - 10 Weeks from the date of PO.
- 05) PAYMENT** - 25% Advance & Balance against Proforma invoice prior to dispatch.  
Incase of delayed payment OD Interest@18%p.a will be charged
- 06) VALIDITY** - 2 days( Subject to price increase by our principle)
- 07) WARRANTY** - 12 months from the date of commissioning/ 18 Months from the date of dispatch whichever is earlier.  
( Warranty is subjected to Manufacturing defects only does not cover Operational or other cases. )
- 08) INSURANCE** - Not in our scope.
- 09) DISCOUNT** - Please consider 10% discount on the Quoted Prices

We now request you to kindly place your valuable order on us.

**OUR GST Details - GST NO : 36AAAFD5716G1ZP**

**Bank Details: CANARA BANK, Kundanbagh Branch, ACC No: 1626261007254, Current Account, Deraz Engineers**

**IFSC Code: CNRB0001626, MICR Code: 500015014**

**SPECIAL NOTE:** Please release your order on our H.O Address: DERAZ ENGINEERS, Plot no:19, Star House, Road no:12,

Tech Park, IDA Nacharam, Hyderabad-500076, Telangana.

Thanking you and assuring you of our best services at all times.

Yours Faithfully,

(TECHNICAL DEPT.)

(COMMERCIAL DEPT.)

Note: For further clarification Please contact: Mr. C Gopinath ( Zonal Manger ) - 9948353621

**AUTHORIZED DEALERS FOR**



Head Office: Plot No. 19, Star House, Rd No.:12, Tech Park, IDA Nacharam, Hyderabad-500076, email: [deraz@deraz.in](mailto:deraz@deraz.in)

Ph. No.: 040-29802645, 29802722, Cell: +91 9948353601-25, email: [sales@deraz.in](mailto:sales@deraz.in)

B.O.: Plot No.P2, Navarang Apartment, Khanna Nagar and Benz Circle, Vijayawada - 520 010, Ph. No: 0866-2488330, Cell: +91 9010901031, email: [vja@deraz.in](mailto:vja@deraz.in)

B.O.: D.No: 27-2-1046/1/102, 6<sup>th</sup> Street, Sri Sai Balaji Nilayam, Jagadish Nagar, Nellore-524005, Ph. No: 0861-2342442, Cell: +91 9010901040, email: [nlr@deraz.in](mailto:nlr@deraz.in)

B.O.: Plot No: 77/40, Coral Merchant Street, Mannadi, Chennai-600001, Ph. No: 044-25225786, Cell: +91 9176997525, email: [chennai@deraz.in](mailto:chennai@deraz.in)

Pump No.	1. Primary pump	2. Secondary pump	3. RT Circulation Pump	4. RT Circulation Pump
Client	M/s. Fleming Labs			
SQ No. / SQ Date	OUR REF. NO:DQH/2K2409022/CG/SSA			
Quantity	2	1	2	2
<b>OPERATING DATA</b>				
Fluid Handled	Brine	Brine	Cooling tower water	Cooling tower water
Temperature (°c)	{-5°C}	{-10°C}	50°C	50°C
Sp. Gravity	1.01	1.01	1	1
Capacity(m³/hr)	30	30	45	60
Total Head(m)	25	25	25	25
<b>PUMP TYPE &amp; SIZE</b>	<b>ETL 040-040-160 GG</b>	<b>ETL 040-040-160 GG</b>	<b>ETL 040-040-160 GG</b>	<b>ETL 050-050-160 GG</b>
<b>Pump Design</b>	Single stage inline volute casing pumps with back pull out design with radically split volute casing.	Single stage inline volute casing pumps with back pull out design with radically split volute casing.	Single stage inline volute casing pumps with back pull out design with radically split volute casing.	Single stage inline volute casing pumps with back pull out design with radically split volute casing.
NPSHR(m)( ABSOLUTE )	4.45	4.45	9.85	5.38
Speed(rpm)	2942	2942	2998	2922
Efficiency(%)	64.7	64.7	61.8	69.8
Power Absorbed(kW)	3.19	3.19	4.98	5.86
Shut-off head	31.07	31.07	38.11	35.71
<b>IMPELLER TYPE</b>	<b>Closed</b>	<b>Closed</b>	<b>Closed</b>	<b>Closed</b>
Impeller Diameter	150	150	163	159
Pump Suction / Discharge Nozzle Size	40/40	40/40	40/40	50/50
<b>Pump Flange Standard Suction / Discharge</b>	<b>ASME B16.1_CL.#125_RF</b>	<b>ASME B16.1_CL.#125_RF</b>	<b>ASME B16.1_CL.#125_RF</b>	<b>ASME B16.1_CL.#125_RF</b>
<b>M O C</b>				
Pump Casing	CI	CI	CI	CI
Impeller	CI	CI	CI	CI
Shaft	45C8	45C8	45C8	45C8
GLAND SEAL	Inbuilt Mechanical Seal	Inbuilt Mechanical Seal	Inbuilt Mechanical Seal	Inbuilt Mechanical Seal
<b>MOTOR DATA</b>				
Make	Inbuilt KSB Motor	Inbuilt KSB Motor	Inbuilt KSB Motor	Inbuilt KSB Motor
TYPE	IE3 , NFLP, 415V+ 10% , 3PH, 50Hz, Insulation Class F but temp rise limited to class B, IP55	IE3 , NFLP, 415V+ 10% , 3PH, 50Hz, Insulation Class F but temp rise limited to class B, IP55	IE3 , NFLP, 415V+ 10% , 3PH, 50Hz, Insulation Class F but temp rise limited to class B, IP55	IE3 , NFLP, 415V+ 10% , 3PH, 50Hz, Insulation Class F but temp rise limited to class B, IP55
Kw/HP Rating/IEC Frame Size	5.50 KW / 7.5 HP / 132S	5.50 KW / 7.5 HP / 132S	7.5 KW / 10 HP / 132S	7.5 KW / 10 HP / 132S
<b>Price in Rs.</b>				
<b>Pumpset with Inbuilt Mechanical Seal &amp; Motor along with Support Foot</b>	₹ 72,499	₹ 72,499	₹ 76,293	₹ 77,597
<b>Unit Item in Rs.</b>	₹ 72,499	₹ 72,499	₹ 76,293	₹ 77,597
<b>Total Price in Rs.</b>	₹ 1,44,999	₹ 72,499	₹ 1,52,585	₹ 1,55,193
<b>Grand Total</b>	₹ 5,25,277			
<b>AVAILABILITY</b>	<b>Ex Stock</b>	<b>Within 08 - 10 Weeks</b>	<b>Ex Stock</b>	<b>Within 08 - 10 Weeks</b>
<p style="text-align: center;"><b>Note :</b></p> <p style="text-align: center;"><b>Scope of Supply:-</b> Pumpset with Inbuilt Mechanical Seal &amp; Motor along with Support Foot</p>				

## Performance curve

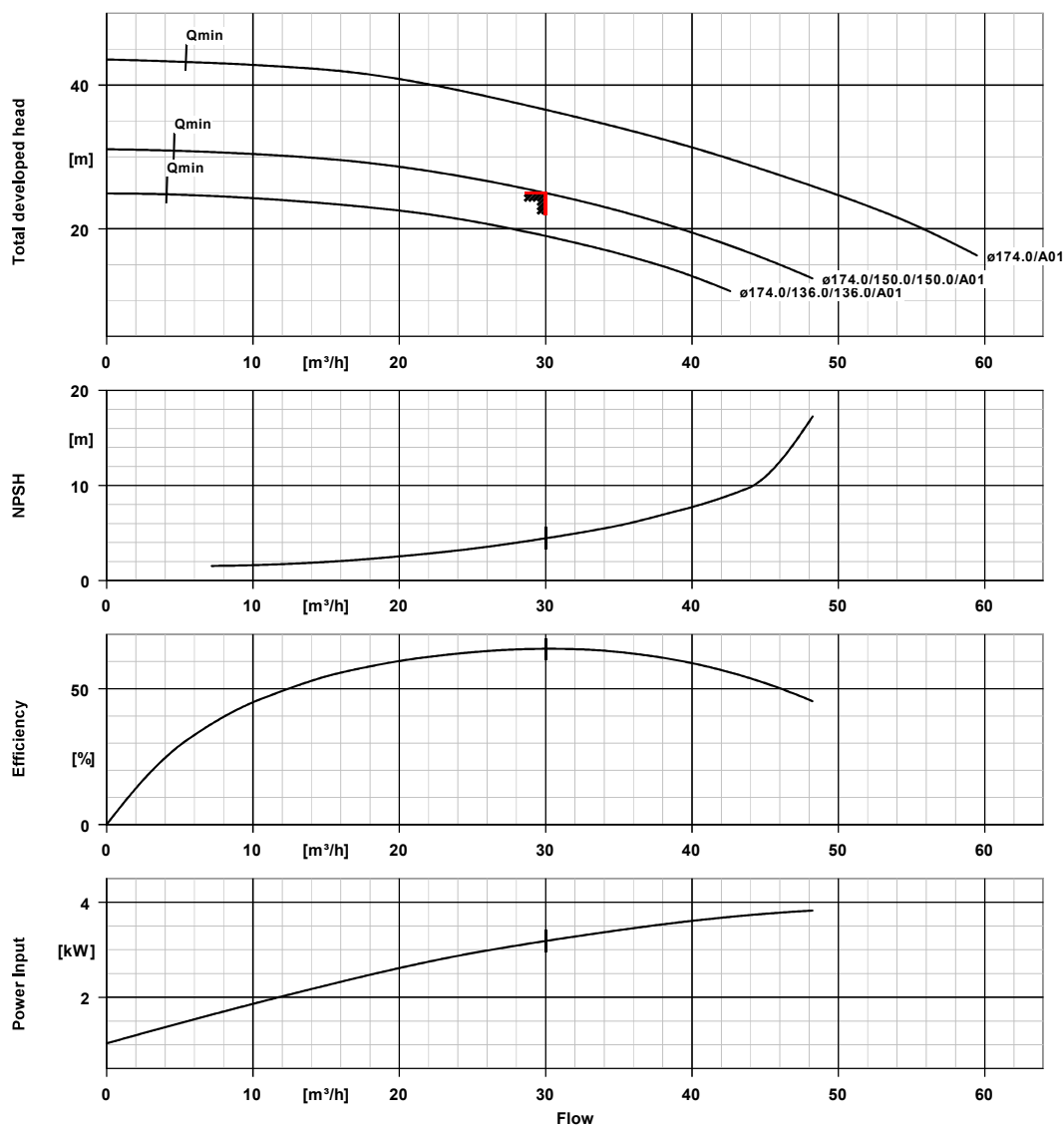


Customer item no.:  
Communication dated:  
Doc. no.: Quick quote  
Quantity: 1

Number: ES 8003152492  
Item no.:100  
Date: 02/09/2024  
Page: 3 / 15

**ETL 040-040-160 GGS AV10D200552 BIE3**  
Inline pump

Version no.: 1



### Curve data

Speed of rotation	2942 rpm	Efficiency	64.7 %
Fluid density	1010 $\text{kg}/\text{m}^3$	MEI (Minimum Efficiency Index)	$\geq 0.70$
Viscosity	1.00 $\text{mm}^2/\text{s}$	Power absorbed	3.19 kW
Flow rate	29.99 $\text{m}^3/\text{h}$	NPSHR	4.45 m
Requested flow rate	30.00 $\text{m}^3/\text{h}$	Curve number	K1159.452/22
Total developed head	24.99 m	Effective impeller diameter	150.0 mm
Requested developed head	25.00 m	Acceptance standard	Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2

# Installation plan



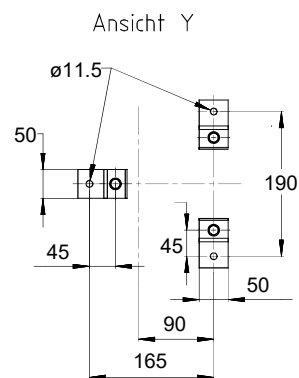
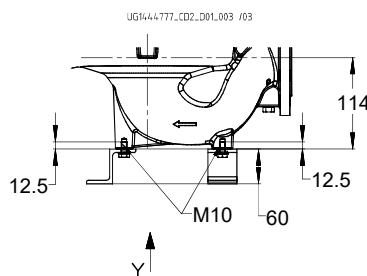
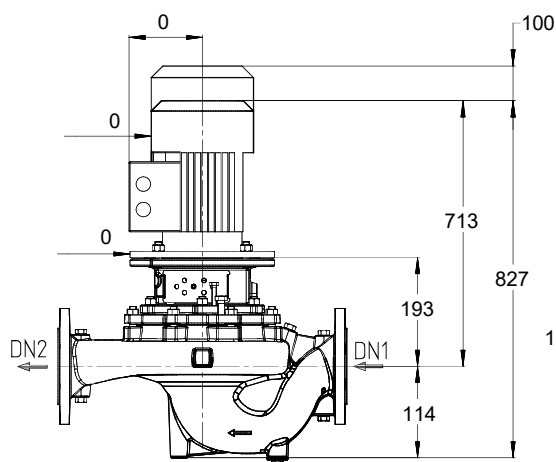
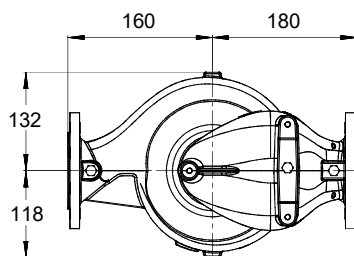
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Item no.:100  
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**ETL 040-040-160 GGS AV10D200552 BIE3**

Version no.: 1

Inline pump



*Drawing is not to scale*

*Dimensions in mm*

## Motor

Motor manufacturer	Indian reference motor
Motor size	132S
Motor power	5.50 kW
Number of poles	2
Speed of rotation	2940 rpm
Position of terminal box	0° same orientation Viewed from the drive

## Connections

Suction nominal size DN1	NPS 1½ / ASME B 16.1
Discharge nominal size DN2	NPS 1½ / ASME B 16.1
Nominal pressure suct.	CL 125
Rated pressure disch.	CL 125

## Weight net

Pump	21 kg
Motor	64 kg
Other accessories	2 kg
Total	86 kg

**Connect pipes without stress or strain!**

**For auxiliary connections see separate drawing.**

## Performance curve

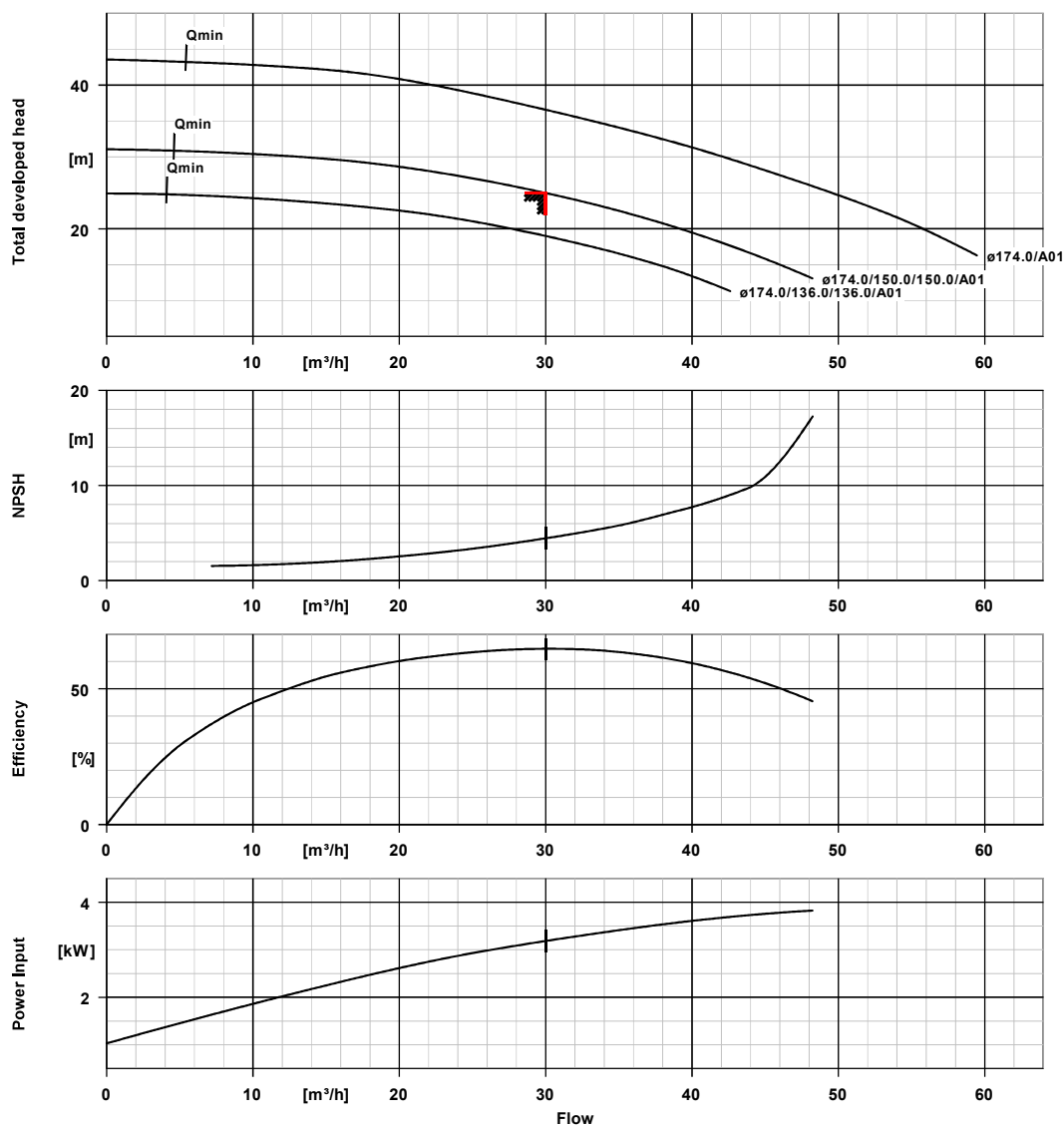


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Number: ES 8003152492  
Item no.:100  
Date: 02/09/2024  
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**ETL 040-040-160 GGS AV10D200552 BIE3**  
Inline pump

Version no.: 1



### Curve data

Speed of rotation	2942 rpm	Efficiency	64.7 %
Fluid density	1010 $\text{kg}/\text{m}^3$	MEI (Minimum Efficiency Index)	$\geq 0.70$
Viscosity	1.00 $\text{mm}^2/\text{s}$	Power absorbed	3.19 kW
Flow rate	29.99 $\text{m}^3/\text{h}$	NPSHR	4.45 m
Requested flow rate	30.00 $\text{m}^3/\text{h}$	Curve number	K1159.452/22
Total developed head	24.99 m	Effective impeller diameter	150.0 mm
Requested developed head	25.00 m	Acceptance standard	Tolerances to ISO 9906 Class 3B; below 10 kW acc. to paragraph 4.4.2

# Installation plan



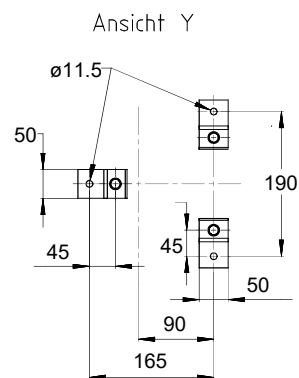
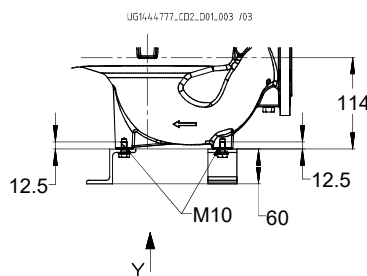
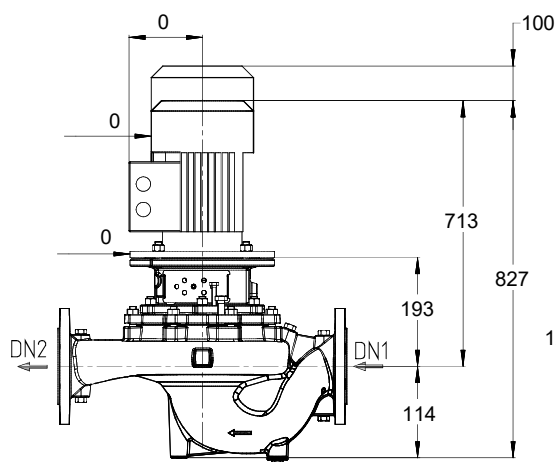
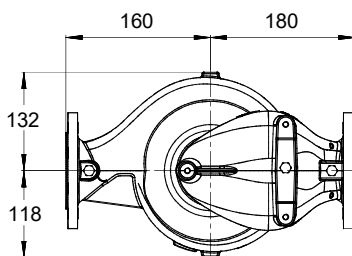
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Quantity: 1

Number: ES 8003152492  
Item no.:100  
Date: 02/09/2024  
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**ETL 040-040-160 GGS AV10D200552 BIE3**

Version no.: 1

Inline pump



*Drawing is not to scale*

*Dimensions in mm*

## Motor

Motor manufacturer	Indian reference motor
Motor size	132S
Motor power	5.50 kW
Number of poles	2
Speed of rotation	2940 rpm
Position of terminal box	0° same orientation Viewed from the drive

## Connections

Suction nominal size DN1	NPS 1½ / ASME B 16.1
Discharge nominal size DN2	NPS 1½ / ASME B 16.1
Nominal pressure suct.	CL 125
Rated pressure disch.	CL 125

## Weight net

Pump	21 kg
Motor	64 kg
Other accessories	2 kg
Total	86 kg

**Connect pipes without stress or strain!**

**For auxiliary connections see separate drawing.**

## Performance curve

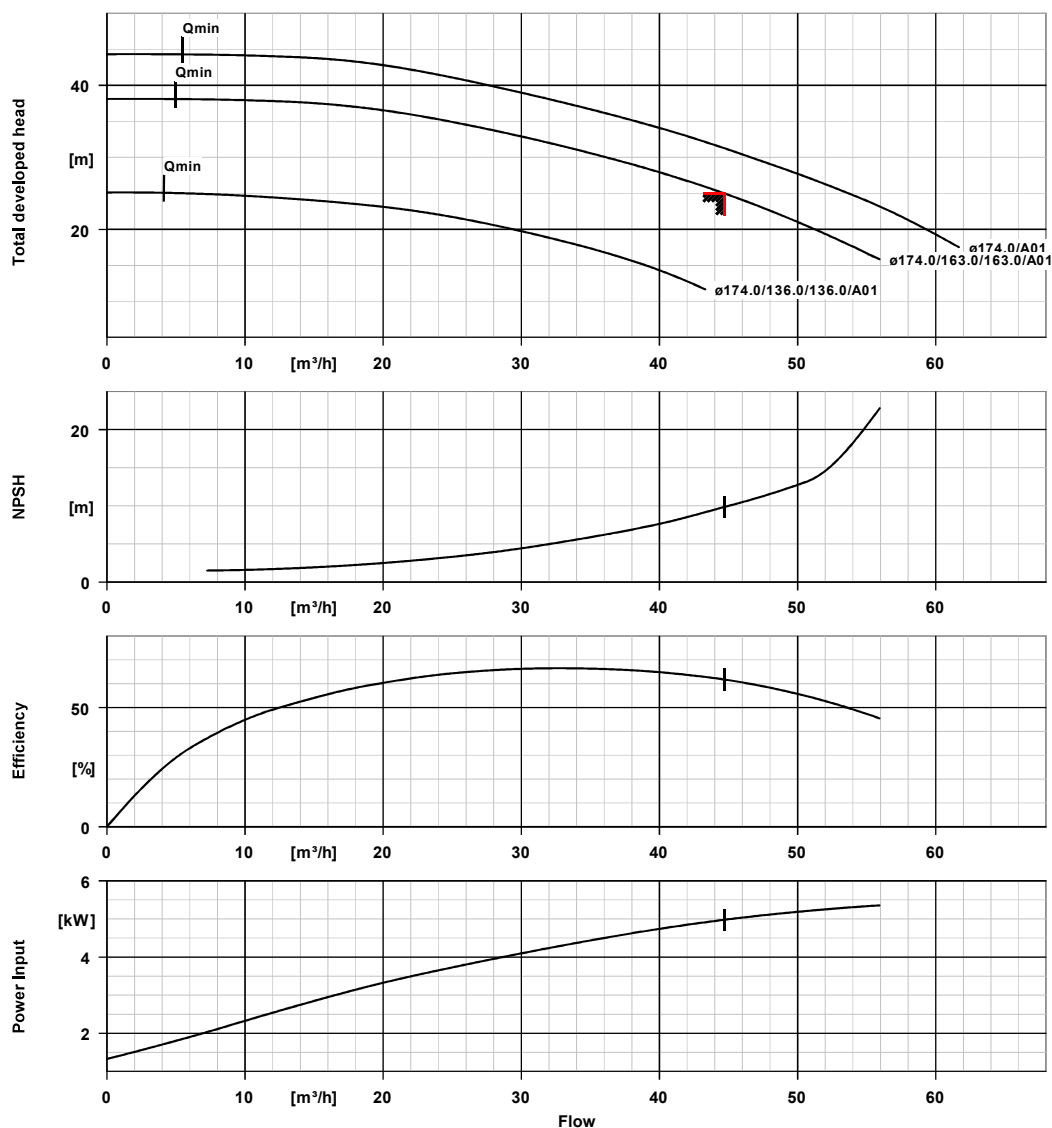


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Doc. no.: Quick quote  
Quantity: 1

Number: ES 8003152492  
Item no.:200  
Date: 02/09/2024  
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**ETL 040-040-160 GGS AV10D200552 BKS BIE2**  
Inline pump

Version no.: 1



### Curve data

Speed of rotation 2998 rpm  
Fluid density  $1010 \text{ kg/m}^3$   
Viscosity  $1.00 \text{ mm}^2/\text{s}$   
Flow rate  $44.71 \text{ m}^3/\text{h}$   
Requested flow rate  $44.70 \text{ m}^3/\text{h}$   
Total developed head 25.01 m  
Requested developed head 25.00 m

Efficiency 61.8 %  
MEI (Minimum Efficiency Index)  $\geq 0.70$   
Power absorbed 4.98 kW  
NPSHR 9.85 m  
Curve number K1159.452/22  
Effective impeller diameter 163.0 mm  
Acceptance standard Tolerances to ISO 9906  
Class 3B; below 10 kW  
acc. to paragraph 4.4.2

# Installation plan



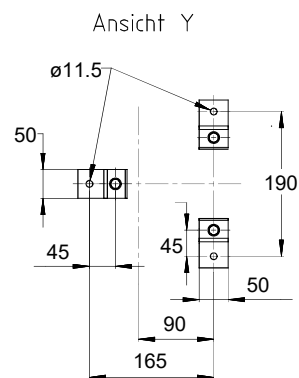
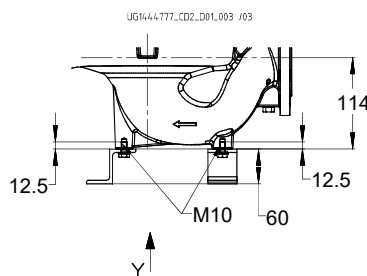
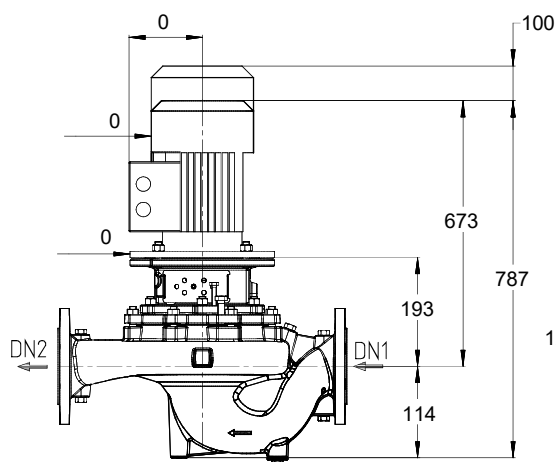
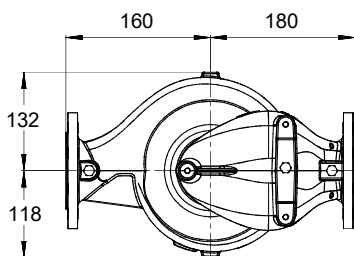
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Communication dated:  
Doc. no.: Quick quote  
Quantity: 1

Number: ES 8003152492  
Item no.:200  
Date: 02/09/2024  
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**ETL 040-040-160 GGS AV10D200552 BKS BIE2**

Version no.: 1

Inline pump



*Drawing is not to scale*

*Dimensions in mm*

## Motor

Motor manufacturer	KSB-Motor
Motor size	132S
Motor power	5.50 kW
Number of poles	2
Speed of rotation	2906 rpm
Position of terminal box	0° same orientation Viewed from the drive

## Connections

Suction nominal size DN1	NPS 1½ / ASME B 16.1
Discharge nominal size DN2	NPS 1½ / ASME B 16.1
Nominal pressure suct.	CL 125
Rated pressure disch.	CL 125

## Weight net

Pump	21 kg
Motor	45 kg
Other accessories	2 kg
Total	67 kg

**Connect pipes without stress or strain!**

**For auxiliary connections see separate drawing.**



## Performance curve

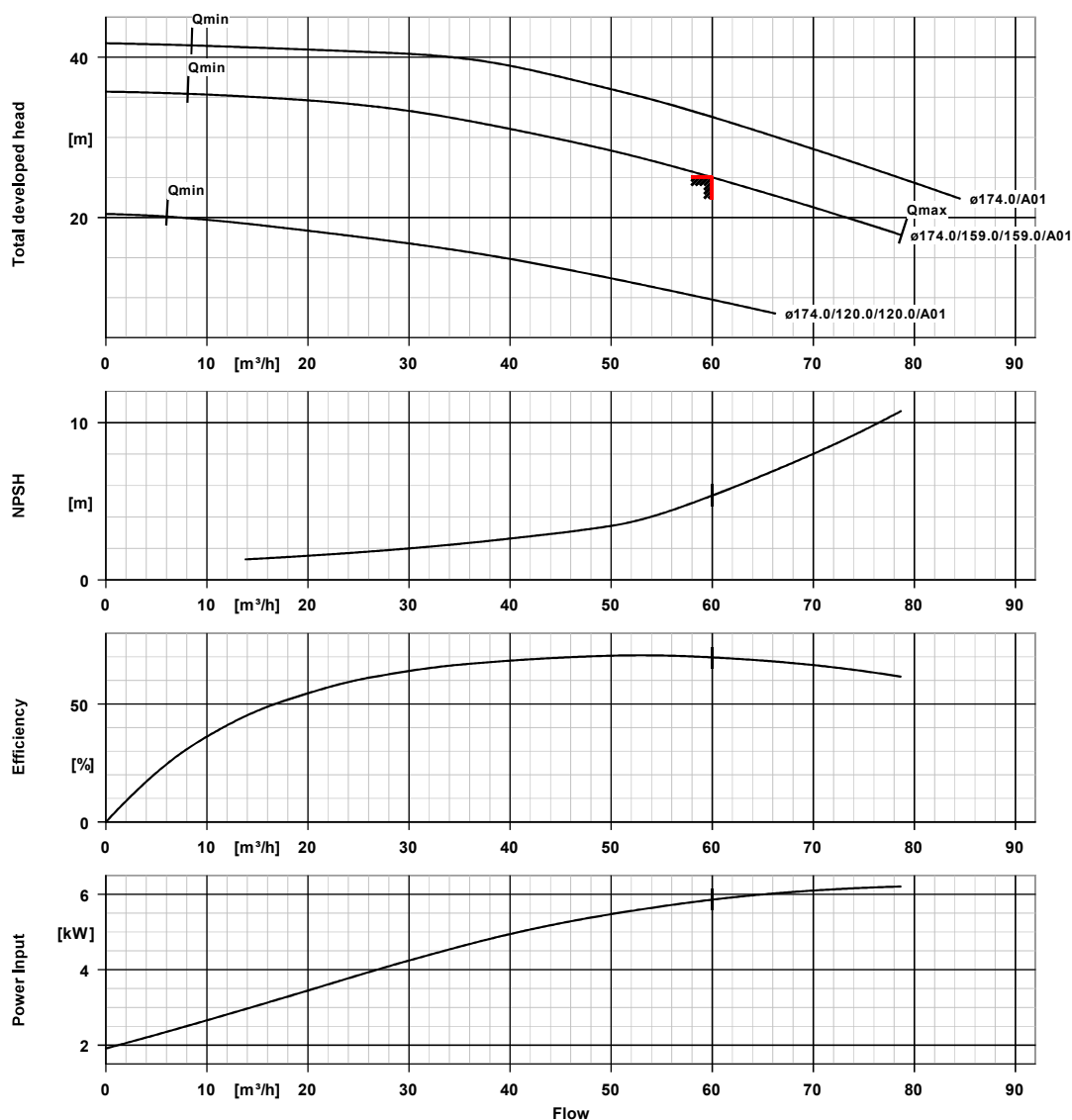


Customer item no.:  
Communication dated:  
Doc. no.: Quick quote  
Quantity: 1

Number: ES 8003152492  
Item no.:300  
Date: 02/09/2024  
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**ETL 050-050-160 GGS AV10D200752 BKS BIE3**  
Inline pump

Version no.: 1



### Curve data

Speed of rotation 2922 rpm  
Fluid density 1000 kg/m<sup>3</sup>  
Viscosity 1.00 mm<sup>2</sup>/s  
Flow rate 60.01 m<sup>3</sup>/h  
Requested flow rate 60.00 m<sup>3</sup>/h  
Total developed head 25.01 m  
Requested developed head 25.00 m

Efficiency 69.8 %  
MEI (Minimum Efficiency Index)  $\geq 0.60$   
Power absorbed 5.86 kW  
NPSHR 5.38 m  
Curve number K1159.452/26  
Effective impeller diameter 159.0 mm  
Acceptance standard Tolerances to ISO 9906  
Class 3B; below 10 kW  
acc. to paragraph 4.4.2

# Installation plan



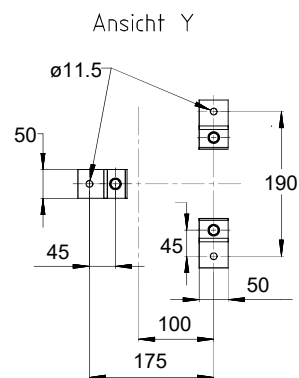
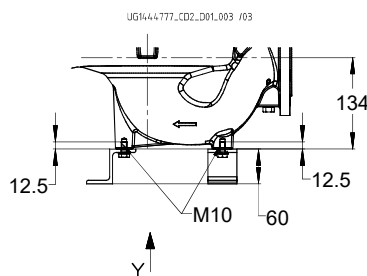
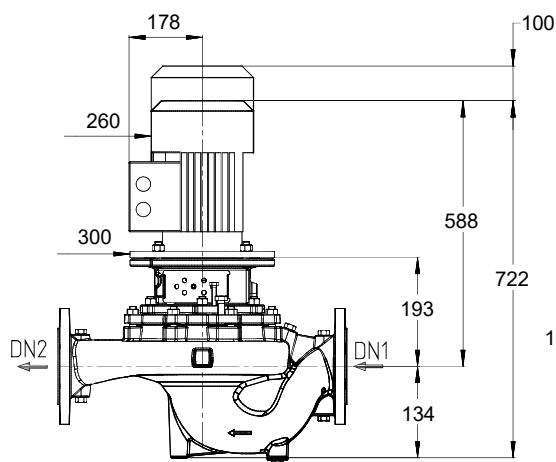
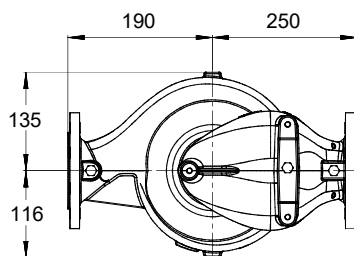
Customer item no.:  
Communication dated:  
Doc. no.: Quick quote  
Quantity: 1

Number: ES 8003152492  
Item no.:300  
Date: 02/09/2024  
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**ETL 050-050-160 GGS AV10D200752 BKS BIE3**

Version no.: 1

Inline pump



*Drawing is not to scale*

*Dimensions in mm*

## Motor

Motor manufacturer	KSB-Motor
Motor size	132S
Motor power	7.50 kW
Number of poles	2
Speed of rotation	2922 rpm
Position of terminal box	0° same orientation Viewed from the drive

## Connections

Suction nominal size DN1	NPS 2 / ASME B 16.1
Discharge nominal size DN2	NPS 2 / ASME B 16.1
Nominal pressure suct.	CL 125
Rated pressure disch.	CL 125

## Weight net

Pump	25 kg
Motor	72 kg
Other accessories	2 kg
Total	99 kg

**Connect pipes without stress or strain!**

**For auxiliary connections see separate drawing.**