



Innovators In Flow Technology

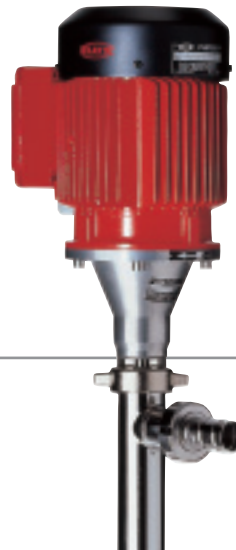


## High Viscosity Liquid Pumps

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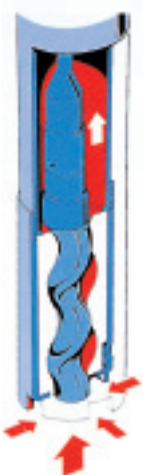


# FLUX High Viscosity Liquid Pumps – highly acclaimed



FLUX high viscosity liquid pumps have been tried and tested in numerous industrial sectors around the world. Two pump designs are available in differing models to meet every requirement for transferring thin to high viscosity media.

All models are easy to operate and maintain. Naturally, they all carry the advanced design and safety features that users expect from FLUX. For more than 50 years we have manufactured innovative, high-quality products. Operators readily acknowledge the performance of our powerful and extremely reliable pumps.



## Positive displacement pump – eccentric worm type:

- smooth pumping of the liquid with very little turbulences
- easy to clean
- advanced pump design without any inaccessible or hidden voids, ideal for use in the food, cosmetic and pharmaceutical industries
- sanitary version available with 3A-approval
- vertical and horizontal use
- low wear, no valves, vanes etc.
- high output of 8 GPM or 13 GPM

## In this brochure:

FLUX eccentric worm-drive pumps type F 550 are designed for a wide range of applications. Two versions are available:

The robust **bearing flange version type F 550 S** is suited to continuous operation and is available with a three-phase electric motor or a compressed air motor.

The lightweight, easy-to-handle version for quick-change applications **type F 55 GS** is equipped with a planetary gear.

These models are used with a FLUX commutator or compressed air motor and are ideal for conveying substances with up to 30,000 mPas (cP) viscosity.



For use in hazardous areas **Zone 0** for transferring high flammability liquids class IIA or IIB, FLUX high viscosity liquid pumps type F 550 and F 560 are available in versions „XA“ and „XB“, tested and certified according to **ATEX-Directive 94/9/EC**.

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# Eccentric Worm-Drive Pumps Type F 550 S and F 550 SB Version with bearing flange

## Recommended for transferring

Thin to highly viscous, even pasty, still free flowing substances.

## Typical applications

Transferring viscous substances from barrels and/or containers. Feeding filling machines.

## Available drive motors

Three-phase electric or compressed air motors.  
Three-phase motors of 0.75 or 1.1 kW, with a speed of 930 or 700 rpm. For highly viscous, pasty substances a motor of 1.1 kW is required with a recommended speed of 700 rpm for viscosities exceeding 50,000 mPas (cP), because of the low velocity of such products. A speed of 930 rpm may be used if the product is still flowing.

For viscosities up to 25,000 mPas (cP) a motor of 0.75 kW and 930 rpm will be sufficient.

On compressed air motors of 0.5 to 1.8 kW the speed may be controlled by a valve in the air supply line.

## Scope of supply

A complete eccentric worm-drive pump consists of: drive motor, pump, stator and hose connection.



## Technical Data

| Type            | Viscosity mPas (cP) | Curve No. | Performance Chart |
|-----------------|---------------------|-----------|-------------------|
| F 550 S-50/21   | 1                   | 1         |                   |
| F 550 SB-50/21  | 1,000 – 2,000       | 2         |                   |
| F 550 SXA-50/21 | 20,000 – 25,000     | 3         |                   |
| F 550 S-54/26   | 1                   | 4         |                   |
| F 550 SB-54/26  | 1,000 – 2,000       | 5         |                   |
|                 | 20,000 – 25,000     | 6         |                   |

With higher viscosities delivery rate will be lower, depending on the velocity of the fluid.

Values  $\pm$  10% at 930 rpm. Delivery rate depends on the velocity of the fluid.

| Type  | F 550 S-50/21  | F 550 SB-50/21                      | F 550 SXA-50/21   | F 550 SXB-50/21   |
|---|--|-------------------------------------|---|---|
| Delivery rate max.                                  | 8 GPM  | 8 GPM                               | 8 GPM   | 8 GPM   |
| Delivery head max.                                  | 116 PSi  | 116 PSi                             | 116 PSi   | 116 PSi   |
| Thread on outlet                                    | G 1½ A (BSP 1½" male)  | G 1½ A (BSP 1½" male)               | G 1½ A (BSP 1½" male)   | G 1½ A (BSP 1½" male)   |
| Seal type   | mechanical seal in ceramic oxide, o-rings in FKM   | stuffing box in PTFE, re-adjustable | mechanical seal in ceramic oxide, o-rings in FKM                            | mechanical seal in ceramic oxide, o-rings in FKM                            |
| Material  | bearing flange in aluminium*; outer tube, torsion shaft and eccentric worm in Stainless steel 316 Ti |                                     |   |   |
| Outer-Ø   | 2"   | 2"                                  | 2"  | 2"  |
| Stator  | not included with the pump, separate part number please see list below                               |                                     | Stator PTFE white, included with the pump                                   | Stator PTFE black, included with the pump                                   |
| Explosion-proof according to ATEX-Directive 94/9/EC | not approved for transferring high flammability liquids in Zone 0                                    |                                     | EC Type Examination Certificate No. PTB 99 ATEX 4050 X (Ex II 1/2 G IIA T4) | EC Type Examination Certificate No. PTB 99 ATEX 4051 X (Ex II 1/2 G IIB T4) |
| Part No./Weight                                     |  |                                     |   |   |
| Immersion length 27"                                | 550 25 507/10.5 lbs  | 550 25 530/13 lbs                   | 550 23 020/12 lbs   | 550 23 400/12 lbs   |
| Immersion length 39"                                | 550 25 510/12 lbs  | 550 25 531/14.5 lbs                 | 550 23 021/13 lbs   | 550 23 401/13 lbs   |
| Immersion length 47"                                | 550 25 512/13 lbs  | 550 25 532/15 lbs                   | 550 23 022/14.5 lbs   | 550 23 402/14.5 lbs   |

| Type                 | F 550 S-54/26  | F 550 SB-54/26                      |
|----------------------|--|-------------------------------------|
| Delivery rate max.   | 13 GPM   | 13 GPM                              |
| Delivery head max.   | 116 PSi  | 116 PSi                             |
| Thread on outlet     | G 1½ A (BSP 1½" male)  | G 1½ A (BSP 1½" male)               |
| Seal type            | mechanical seal in ceramic oxide, o-rings in FKM   | stuffing box in PTFE, re-adjustable |
| Material             | bearing flange in aluminium*; outer tube, torsion shaft and eccentric worm in Stainless steel 316 Ti |                                     |
| Outer-Ø              | 2¼"  | 2¼"                                 |
| Stator               | not included with the pump, separate part number please see list below                               |                                     |
| Part No./Weight      |  |                                     |
| Immersion length 27" | 550 25 649/12 lbs  | 550 25 694/14 lbs                   |
| Immersion length 39" | 550 25 652/13 lbs  | 550 25 695/15.6 lbs                 |
| Immersion length 47" | 550 25 654/14.5 lbs  | 550 25 696/16.75 lbs                |

Other lengths on request. \*Type F 550 SF with bearing flange in Stainless steel (316 Ti) on request

### Stators for Eccentric Worm-Drive Pumps Type F 550 S and F 550 SB

| Material  | Temperature | Recommended for   | Part No./Weight outer-Ø 50 mm | Part No./Weight outer-Ø 54 mm |
|---|-------------|---|-------------------------------|-------------------------------|
| NBR white (Nitrile Butadiene Rubber) elastomer      | max. 194 °F | particularly suitable for oils and greases, also for food products                                    | 550 24 248/1 lbs              | 550 25 621/1 lbs              |
| NBR black (Nitrile Butadiene Rubber) elastomer      | max. 194 °F | particularly suitable for oils and greases, not suitable for food products                            | 550 24 244/1 lbs              | 550 25 620/1 lbs              |
| FKM (Fluor Rubber) elastomer                        | max. 302 °F | excellent chemical resistance to all different kind of products, not suitable for food products       | 550 24 247/1 lbs              | 550 25 619/1 lbs              |
| PTFE (Ethylene-Tetra-Fluor-Ethylene) solid material | max. 302 °F | excellent chemical resistance, particularly suitable for food products, pharmaceuticals and cosmetics | 550 24 256/1 lbs              | 550 25 625/1.5 lbs            |

### Hose connection in Stainless steel, complete with union nut

| Type F 550 S and F 550 SB        | Part No./Weight    |
|----------------------------------|--------------------|
| for flexible hose, inside 1" ID  | 959 04 002/0.5 lbs |
| for flexible hose, inside 1¼" ID | 959 04 003/1 lbs   |
| for flexible hose, inside 1½" ID | 959 04 004/1 lbs   |

# Eccentric Worm-Drive Pumps Type F 55 GS and F 55 GSB with planetary gear

## Recommended for transferring

Thin to medium viscosity liquids up to a maximum viscosity of 30,000 mPas (cP).

## Typical applications

Liquid transfer from barrels and/or containers. The eccentric worm-drive pumps type F 55 GS and F 55 GSB are particularly lightweight and easy-to-handle, making them extremely versatile pumps. The lightest model has a weight of 12 lbs only. The weight of the complete pump depends on the immersion length and motor assembly.

## Seal type

Type F 55 GS with mechanical seal or Type F 55 GSB with stuffing box

## Available drive motors

Commutator motors or compressed air motors.

An infinitely variable speed variator – also available on explosion-proof models – allows the operator to set pump capacity to specific delivery requirements.

## Scope of supply

A complete eccentric worm-drive pump consists of: drive motor, pump, stator and hose connection.



F 55 GS-54/26  
with commutator motor F 460 Ex

## Technical Data

| Type           | Viscosity mPas (cP) | Curve No. | Performance Chart F 55 GS-50/21 | Performance Chart F 55 GS-54/26 |
|----------------|---------------------|-----------|---------------------------------|---------------------------------|
| FEM 4070       | 1                   | 1         |                                 |                                 |
| F 458/F 458 EL | up to 3,000         | 2         |                                 |                                 |
| F 460 Ex       | up to 12,000        | 3         |                                 |                                 |
| F 460 Ex EL    |                     |           |                                 |                                 |
| F 458-1        | 1                   | 4         |                                 |                                 |
| F 460-1 Ex     | up to 3,000         | 5         |                                 |                                 |
|                | up to 25,000        | 6         |                                 |                                 |
| F 416 Ex       | 1                   | 7         |                                 |                                 |
| F 416-1 Ex     | up to 3,000         | 8         |                                 |                                 |
| F 416-2 Ex     | up to 30,000        | 9         |                                 |                                 |
| F 457/F 457 EL |                     |           |                                 |                                 |

Values ± 10% at 930 rpm. Delivery rate depends on the velocity of the fluid.

| Type  | F 55 GS-50/21  | F 55 GSB-50/21                      | F 55 GSXA-50/21   | F 55 GSXB-50/21   |
|---|--|-------------------------------------|---|---|
| Delivery rate max.                                  | 8 GPM  | 8 GPM                               | 8 GPM   | 8 GPM   |
| Delivery head max.                                  | 116 PSI  | 116 PSI                             | 116 PSI   | 116 PSI   |
| Thread on outlet                                    | G 1½ A (BSP 1½" male)  | G 1½ A (BSP 1½" male)               | G 1½ A (BSP 1½" male)   | G 1½ A (BSP 1½" male)   |
| Seal type   | mechanical seal in ceramic oxide, o-rings in FKM                       | stuffing box in PTFE, re-adjustable | mechanical seal in ceramic oxide, o-rings in FKM                            | mechanical seal in ceramic oxide, o-rings in FKM                            |
| Material  | outer tube, torsion shaft and eccentric worm in Stainless steel 316 Ti |                                     |   |   |
| Outer-Ø   | 2"   | 2"                                  | 2"  | 2"  |
| Stator  | not included with the pump, separate part number please see list below |                                     | Stator PTFE white, included with the pump                                   | Stator PTFE black, included with the pump                                   |
| Explosion-proof according to ATEX-Directive 94/9/EC | not approved for transferring high flammability liquids in Zone 0      |                                     | EC Type Examination Certificate No. PTB 99 ATEX 4050 X (Ex II 1/2 G IIA T4) | EC Type Examination Certificate No. PTB 99 ATEX 4051 X (Ex II 1/2 G IIB T4) |
| Part No./Weight                                     |  |                                     |   |   |
| Immersion length 27"                                | 550 24 807/9.5 lbs   | 550 24 838/9.5 lbs                  | 550 23 030/10.5 lbs   | 550 23 410/10.5 lbs   |
| Immersion length 39"                                | 550 24 810/11 lbs  | 550 24 839/11 lbs                   | 550 23 031/12 lbs   | 550 23 411/12 lbs   |
| Immersion length 47"                                | 550 24 812/12 lbs  | 550 24 840/12 lbs                   | 550 23 032/13 lbs   | 550 23 412/13 lbs   |

| Type                 | F 55 GS-54/26  | F 55 GSB-54/26                      |
|----------------------|--|-------------------------------------|
| Delivery rate max.   | 13 GPM   | 13 GPM                              |
| Delivery head max.   | 116 PSI  | 116 PSI                             |
| Thread on outlet     | G 1½ A (BSP 1½" male)  | G 1½ A (BSP 1½" male)               |
| Seal type            | mechanical seal in ceramic oxide, o-rings in FKM                       | stuffing box in PTFE, re-adjustable |
| Material             | outer tube, torsion shaft and eccentric worm in Stainless steel 316 Ti |                                     |
| Outer-Ø              | 2¼"  | 2¼"                                 |
| Stator               | not included with the pump, separate part number please see list below |                                     |
| Part No./Weight      |  |                                     |
| Immersion length 27" | 550 25 675/10.5 lbs  | 550 25 697/10.5 lbs                 |
| Immersion length 39" | 550 25 676/12 lbs  | 550 25 698/12 lbs                   |
| Immersion length 47" | 550 25 677/13 lbs  | 550 25 699/13 lbs                   |

Other lengths on request.

### Stators for Eccentric Worm-Drive Pumps Type F 55 GS and F 55 GSB

| Material   | Temperature | Recommended for   | Part No./Weight<br>outer-Ø 50 mm | Part No./Weight<br>outer-Ø 54 mm |
|--|-------------|---|----------------------------------|----------------------------------|
| NBR white<br>(Nitrile Butadiene Rubber)<br>elastomer       | max. 194 °F | particularly suitable for oils and greases, also for food products                                    | 550 24 248/1.1 lbs               | 550 25 621/1.3 lbs               |
| NBR black<br>(Nitrile Butadiene Rubber)<br>elastomer       | max. 194 °F | particularly suitable for oils and greases, not suitable for food products                            | 550 24 244/1.1 lbs               | 550 25 620/1.3 lbs               |
| FKM<br>(Fluor Rubber) elastomer                            | max. 302 °F | excellent chemical resistance to all different kind of products, not suitable for food products       | 550 24 247/1.1 lbs               | 550 25 619/1.3 lbs               |
| PTFE<br>(Ethylene-Tetra-Fluor-<br>Ethylene) solid material | max. 302 °F | excellent chemical resistance, particularly suitable for food products, pharmaceuticals and cosmetics | 550 24 256/1.3 lbs               | 550 25 625/1.5 lbs               |

### Hose Connection in Stainless steel, complete with union nut

| Type F 55 S and F 55 G SB        | Part No./Weight    |
|----------------------------------|--------------------|
| for flexible hose, inside 1" ID  | 959 04 002/0.4 lbs |
| for flexible hose, inside 1¼" ID | 959 04 003/0.7 lbs |
| for flexible hose, inside 1½" ID | 959 04 004/0.8 lbs |

# Sanitary Pumps Type F 560 S Version with bearing flange

## Recommended for transferring

Thin to highly viscous, even pasty, still free flowing substances.

## Typical applications

A pump designed to meet the specific requirements of the food, cosmetic and pharmaceutical industries.

The sanitary pump type F 560 S can be stripped down in no time for cleaning and/or sterilisation. The stator housing comprises a safety bar to protect containers and to allow transfer operations from plastic liners.

The F 560 S pump is available in special version with 3A approval: ground and polished, equipped with a closed mechanical seal in stainless steel with sliding faces in silicium carbide (SiC).

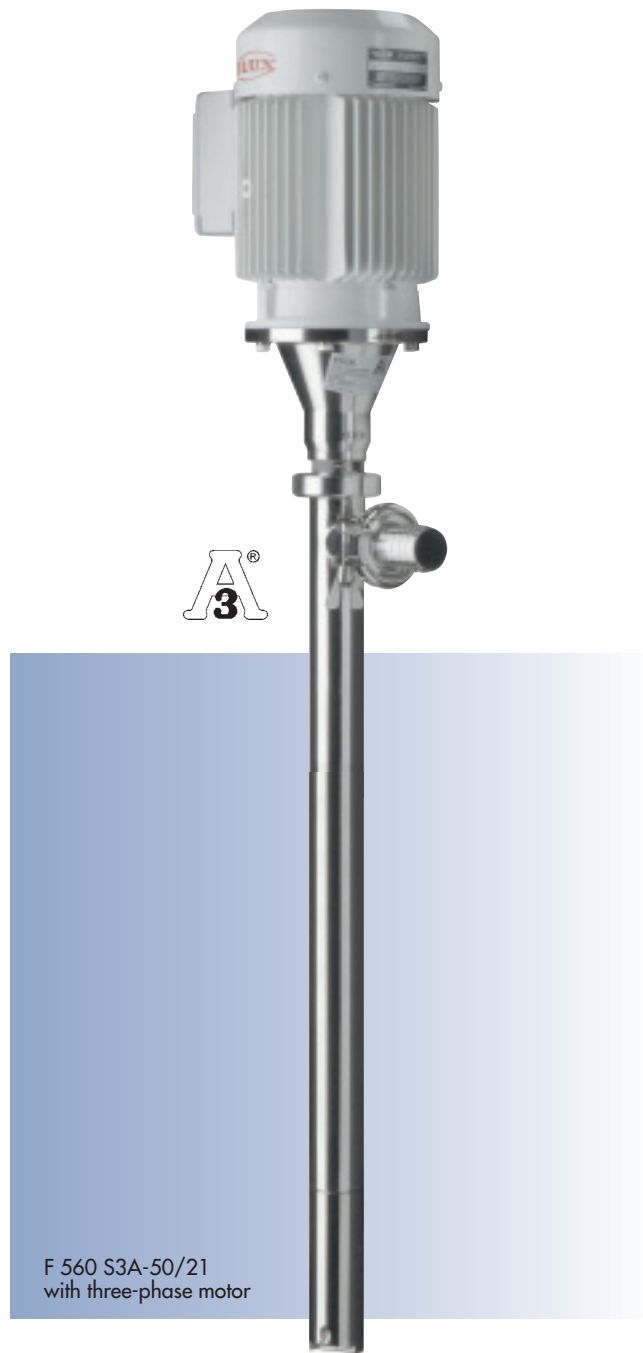
## Available drive motors

Three-phase electric motors or compressed air motors

## Scope of supply

A complete eccentric worm-drive pump consists of: drive motor, pump, stator and hose connection.

The type XA is delivered with stator.



## Technical Data



| Type            | Viscosity mPas (cP) | Curve No. | Performance Chart |
|-----------------|---------------------|-----------|-------------------|
| F 560 S1-50/21  | 1                   | 1         |                   |
| F 560 S2-50/21  | 1.000 – 2.000       | 2         |                   |
| F 560 S3A-50/21 | 20.000 – 25.000     | 3         |                   |
| F 560 S1-54/26  | 1                   | 4         |                   |
| F 560 S2-54/26  | 1.000 – 2.000       | 5         |                   |
| F 560 S3A-54/26 | 20.000 – 25.000     | 6         |                   |

With higher viscosities delivery rate will be lower, depending on the velocity of the fluid.

Values  $\pm$  10% at 930 rpm. Delivery rate depends on the velocity of the fluid.





### Eccentric Worm-Drive Pump with mechanical seal in bearing flange version, drive motors see page 16

| Type  | F 560 S1-50/21   | F 560 S2-50/21        | F 560 S1XA-50/21  | F 560 S2XA-50/21  |
|---|--|-----------------------|---|---|
| Delivery rate max.                                  | 30 l/min   | 30 l/min              | 30 l/min  | 30 l/min  |
| Delivery head max.                                  | 8 bar  | 8 bar                 | 8 bar   | 8 bar   |
| Thread on outlet                                    | Rd 58 x 1/6  | G 1½ A (BSP 1½" male) | Rd 58 x 1/6   | G 1½ A (BSP 1½" male)   |
| Seal type   | mechanical seal in SiC, o-rings in FKM (foodgrade)                                     |                       |   |   |
| Material  | bearing flange, outer tube, torsion shaft and eccentric worm in stainless steel 316 Ti |                       |   |   |
| Outer-Ø   | 50 mm  | 50 mm                 | 50 mm   | 50 mm   |
| Stator  | not included with the pump, separate part number please see list below                 |                       | Stator PTFE white, included with the pump   |   |
| Explosion-proof according to ATEX-Directive 94/9/EC | not approved for transferring high flammability liquids in Zone 0                      |                       | EC Type Examination Certificate No. PTB 99 ATEX 4050 X (Ex II 1/2 G IIA T4)           |   |
| <b>Part No./Weight</b>                              |  |                       |   |   |
| Immersion length 27"                                | 560 20 007/12.8 lbs  | 560 20 107/12.8 lbs   | –  | –  |
| Immersion length 39"                                | 560 20 010/14.3 lbs  | 560 20 110/14.3 lbs   | 560 20 810/15.6 lbs   | 560 20 910/15.6 lbs   |
| Immersion length 47"                                | 560 20 012/15.4 lbs  | 560 20 112/15.4 lbs   | 560 20 812/16.7 lbs   | 560 20 912/16.7 lbs   |

| Type                   | F 560 S1-54/26   | F 560 S2-54/26        | F 560 S3-54/26      |
|------------------------|--|-----------------------|---------------------|
| Delivery rate max.     | 50 l/min   | 50 l/min              | 50 l/min            |
| Delivery head max.     | 8 bar  | 8 bar                 | 8 bar               |
| Thread on outlet       | Rd 58 x 1/6  | G 1½ A (BSP 1½" male) | Clamp 2"            |
| Seal type              | mechanical seal in SiC, o-rings in FKM (foodgrade)                                     |                       |                     |
| Material               | bearing flange, outer tube, torsion shaft and eccentric worm in stainless steel 316 Ti |                       |                     |
| Outer-Ø                | 54 mm  | 54 mm                 | 54 mm               |
| Stator                 | not included with the pump, separate part number please see list below                 |                       |                     |
| <b>Part No./Weight</b> |  |                       |                     |
| Immersion length 27"   | 560 22 007/13.9 lbs  | 560 22 107/13.9 lbs   | 560 22 207/13.9 lbs |
| Immersion length 39"   | 560 22 010/15.4 lbs  | 560 22 110/15.4 lbs   | 560 22 210/15.4 lbs |
| Immersion length 47"   | 560 22 012/16.5 lbs  | 560 22 112/16.5 lbs   | 560 22 212/16.5 lbs |

### Eccentric Worm-Drive Pumps Type F 560 S3A in 3A version

| Type                   | F 560 S3A-50/21   | F 560 S3A-54/26  |
|------------------------|---|--|
| Delivery rate max.     | 30 l/min  | 50 l/min   |
| Delivery head max.     | 8 bar   | 8 bar  |
| Thread on outlet       | Clamp 2"                 | Clamp 2"  |
| Seal type              | closed mechanical seal in stainless steel, sliding faces in SiC, O-rings in FKM (foodgrade)                 |  |
| Material               | bearing flange, outer tube, torsion shaft and eccentric worm in stainless steel 316 Ti, ground and polished |  |
| Outer-Ø                | 50 mm   | 54 mm  |
| Stator                 | stator in PTFE included with the pump   |  |
| <b>Part No./Weight</b> |   |  |
| Immersion length 27"   | 560 24 007/12.8 lbs   | 560 25 007/13.9 lbs  |
| Immersion length 39"   | 560 24 010/14.3 lbs   | 560 25 010/15.4 lbs  |
| Immersion length 47"   | 560 24 012/15.4 lbs   | 560 25 012/16.5 lbs  |

### Stator in PTFE, Stator Housing in Stainless Steel with Safety Bar

| Type F 560 S1, S2 and S3 | Part No./Weight     |
|--------------------------|---------------------|
| Outer-Ø 50 mm            | 560 21 900/1.32 lbs |
| Outer-Ø 54 mm            | 560 23 900/1.5 lbs  |

### Hose Connection in Stainless Steel, complete with Union Nut or Clamp Connection

| Part No./Weight                  | Type F 560 S1      | Type F 560 S2      | Type F 560 S3 and S3A |
|----------------------------------|--------------------|--------------------|-----------------------|
| for flexible hose, inside 1" ID  | 959 04 115/0.4 lbs | 959 04 002/0.4 lbs | –                     |
| for flexible hose, inside 1¼" ID | 959 04 134/0.7 lbs | 959 04 003/0.7 lbs | 959 04 137/0.9 lbs    |
| for flexible hose, inside 1½" ID | 959 04 130/0.9 lbs | 959 04 004/0.9 lbs | 959 04 109/0.9 lbs    |

# Sanitary Pumps Type F 560 GS with Planetary Gear

## Recommended for transferring

Thin to medium viscosity liquids up to maximum 30.000 mPas (cP).

## Typical applications

Very lightweight and easy-to-handle pump for use in the food, cosmetic and pharmaceutical industries. The sanitary pump type F 560 GS can be stripped down in no time for cleaning and/or sterilisation. The stator housing comprises a safety bar to protect containers and to allow transfer out of plastic inliners.

The sanitary pump type F 560 GS is available in special version with 3A approval: ground, polished, with a closed mechanical seal in stainless steel with sliding faces in silicium carbide (SiC).

## Available drive motors

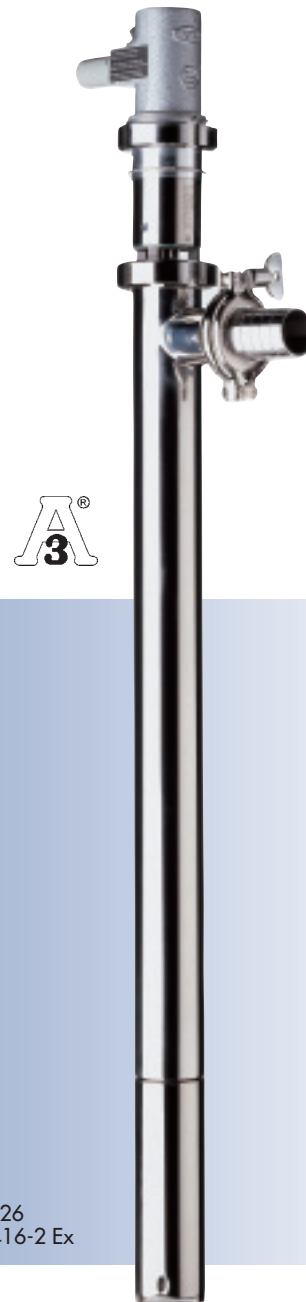
Commutator motors or compressed air motors.

An infinite variable speed variator – also on explosion-proof motors – allows the operator to set pump capacity to specific delivery requirements.

## Scope of supply

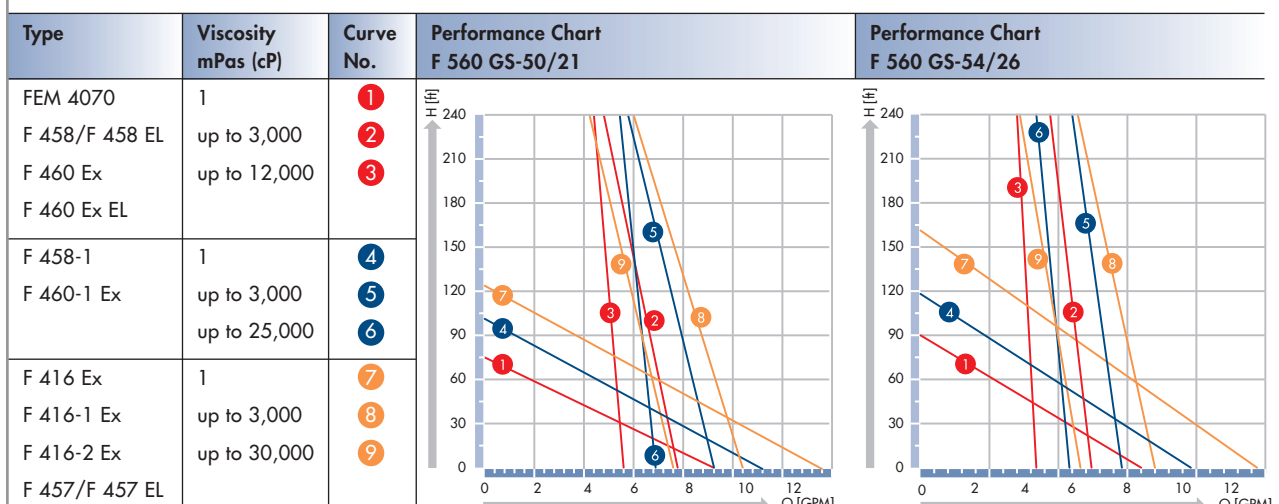
A complete sanitary pump consists of: drive motor, pump, stator and hose connection.

The type XA is delivered with stator.



F 560 GS3A-54/26  
with air motor F 416-2 Ex

## Technical Data



Values ± 10%. Delivery rate depends on the velocity of the fluid.

### Eccentric Worm-Drive Pumps in planetary gear version with mechanical seal, drive motors see page 17

| Type  | F 560 GS1-50/21  | F 560 GS2-50/21             | F 560 GS1XA-50/21   | F 560 GS2XA-50/21           |
|---|--|-----------------------------|---|-----------------------------|
| Delivery rate max.  | 30 l/min   | 30 l/min                    | 30 l/min  | 30 l/min                    |
| Delivery head max.  | 8 bar  | 8 bar                       | 8 bar   | 8 bar                       |
| Thread on outlet  | Rd 58 x 1/6  | G 1½ A (BSP 1½" male)       | Rd 58 x 1/6   | G 1½ A (BSP 1½" male)       |
| Seal type   | mechanical seal in SiC, o-rings in FKM (foodgrade)                     |                             |   |                             |
| Material  | outer tube, torsion shaft and eccentric worm in stainless steel 316 Ti |                             |   |                             |
| Outer-Ø   | 50 mm  | 50 mm                       | 50 mm   | 50 mm                       |
| Stator  | not included with the pump, separate part number please see list below |                             | Stator PTFE white, included with the pump                                   |                             |
| Explosion-proof according to ATEX-Directive 94/9/EC for use in Zone 0 | not approved for transferring highly flammable liquids in Zone 0       |                             | EC Type Examination Certificate No. PTB 99 ATEX 4052 X (Ex II 1/2 G IIA T4) |                             |
| <b>Part No./Weight</b>  |  |                             |   |                             |
| Immersion length 27"  | <b>560 20 307</b> /11.9 lbs  | <b>560 20 407</b> /11.9 lbs | –   | –                           |
| Immersion length 39"  | <b>560 20 310</b> /12.5 lbs  | <b>560 20 410</b> /12.5 lbs | <b>560 21 010</b> /13.0 lbs   | <b>560 21 110</b> /13.0 lbs |
| Immersion length 47"  | <b>560 20 312</b> /13.6 lbs  | <b>560 20 412</b> /13.6 lbs | <b>560 21 012</b> /13.6 lbs   | <b>560 21 112</b> /13.6 lbs |

| Type                   | F 560 GS1-54/26  | F 560 GS2-54/26             | F 560 GS3-54/26             |
|------------------------|--|-----------------------------|-----------------------------|
| Delivery rate max.     | 50 l/min   | 50 l/min                    | 50 l/min                    |
| Delivery head max.     | 8 bar  | 8 bar                       | 8 bar                       |
| Thread on outlet       | Rd 58 x 1/6  | G 1½ A (BSP 1½" male)       | Clamp 2"                    |
| Seal type              | mechanical seal in SiC, o-rings in FKM (foodgrade)                     |                             |                             |
| Material               | outer tube, torsion shaft and eccentric worm in stainless steel 316 Ti |                             |                             |
| Outer-Ø                | 54 mm  | 54 mm                       | 54 mm                       |
| Stator                 | not included with the pump, separate part number please see list below |                             |                             |
| <b>Part No./Weight</b> |  |                             |                             |
| Immersion length 27"   | <b>560 22 307</b> /12.8 lbs  | <b>560 22 407</b> /12.8 lbs | <b>560 22 507</b> /12.8 lbs |
| Immersion length 39"   | <b>560 22 310</b> /13.6 lbs  | <b>560 22 410</b> /13.6 lbs | <b>560 22 510</b> /13.6 lbs |
| Immersion length 47"   | <b>560 22 312</b> /14.7 lbs  | <b>560 22 412</b> /14.7 lbs | <b>560 22 412</b> /14.7 lbs |

### Eccentric Worm-Drive Pumps Type F 560 GS3A in 3A Version, drive motors see page 17

| Type                   | F 560 GS3A-50/21  | F 560 GS3A-54/26            |
|------------------------|---|-----------------------------|
| Delivery rate max.     | 30 l/min  | 50 l/min                    |
| Delivery head max.     | 8 bar   | 8 bar                       |
| Thread on outlet       | Clamp 2"  | Clamp 2"                    |
| Seal type              | closed mechanical seal in stainless steel, sliding faces in SiC, o-rings in FKM (foodgrade) |                             |
| Material               | outer tube, torsion shaft and eccentric worm in stainless steel 316 Ti: ground and polished |                             |
| Outer-Ø                | 50 mm   | 54 mm                       |
| Stator                 | stator in PTFE included with the pump   |                             |
| <b>Part No./Weight</b> |   |                             |
| Immersion length 27"   | <b>560 24 107</b> /11.9 lbs   | <b>560 25 107</b> /12.8 lbs |
| Immersion length 39"   | <b>560 24 110</b> /12.5 lbs   | <b>560 25 110</b> /13.6 lbs |
| Immersion length 47"   | <b>560 24 112</b> /13.6 lbs   | <b>560 25 112</b> /14.7 lbs |

### Stator in PTFE, Stator Housing in Stainless Steel with Safety Bar and Inliner

| Type F 560 GS1, GS2 and GS3 | Part No./Weight             |
|-----------------------------|-----------------------------|
| Outer-Ø 50 mm               | <b>560 21 900</b> /1.32 lbs |
| Outer-Ø 54 mm               | <b>560 23 900</b> /1.5 lbs  |

### Hose Connection in Stainless Steel, complete with Union Nut or Clamp Connection

| Part No./Weight                  | Type F 560 GS1             | Type F 560 GS2             | Type F 560 GS3 and GS3A    |
|----------------------------------|----------------------------|----------------------------|----------------------------|
| for flexible hose, inside 1" ID  | <b>959 04 115</b> /0.4 lbs | <b>959 04 002</b> /0.4 lbs | –                          |
| for flexible hose, inside 1¼" ID | <b>959 04 134</b> /0.7 lbs | <b>959 04 003</b> /0.7 lbs | <b>959 04 137</b> /0.9 lbs |
| for flexible hose, inside 1½" ID | <b>959 04 130</b> /0.9 lbs | <b>959 04 004</b> /0.9 lbs | <b>959 04 109</b> /0.9 lbs |

# Eccentric Worm-Drive Pumps in horizontal version

## Recommended for transferring

Thin to high viscosity, even pasty, still free flowing substances.

## Typical applications

Eccentric worm-drive pumps Type F 550 TR and F 560 TR are designed for horizontal use. A base plate or a pump trolley facilitates the installation with a three-phase electric motor.

This pump design is available in different versions:

Type F 550 S TR with bearing flange in aluminium and flange connection between outer tube and stator housing is recommended for transferring oils, greases, lubricants etc. in the industrial sector.

Type F 550 SF TR with bearing flange in Stainless steel and clamp connection between outer tube and stator housing is recommended for use in pharmaceutical and food industries.

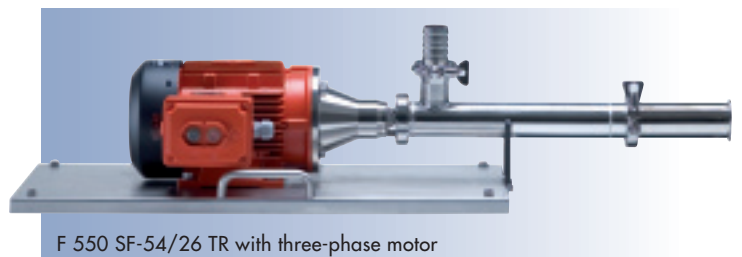
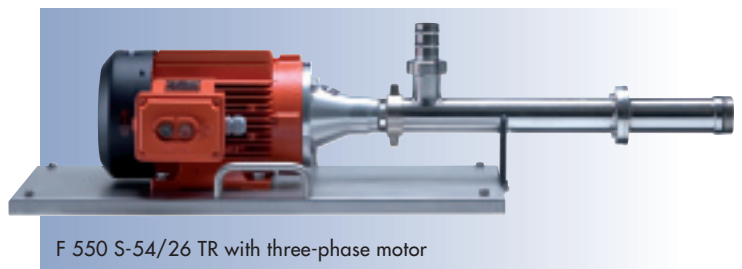
Type F 560 S TR with bearing flange in Stainless steel and clamp connection between outer tube and stator housing is recommended for use in cosmetics, food and pharmaceutical industries. The pump can be stripped down in no time for cleaning and/or sterilisation. A special shaft design allows reversible flow operations.

## Available drive motors

Three-phase electric motors with bottom flange

## Scope of supply

A complete horizontal pump consists of: drive motor, pump and PTFE stator, hose connection on inlet and outlet, base plate or pump trolley.



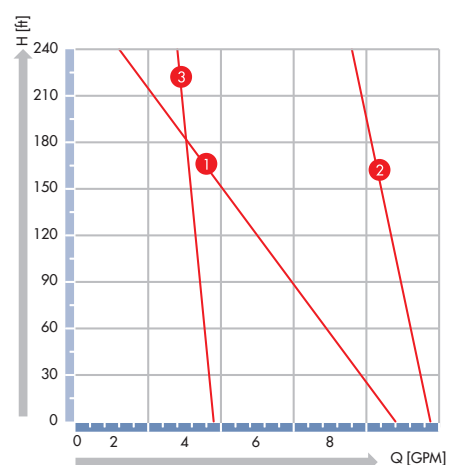
## Technical Data

| Type              | Viscosity mPas (cP) | Curve No. |
|-------------------|---------------------|-----------|
| F 550 S-54/26 TR  | 1                   | 1         |
| F 550 SF-54/26 TR | 1,000–2,000         | 2         |
| F 560 S-54/26 TR  | 20,000–25,000       | 3         |

With higher viscosities delivery rate will be lower, depending on the velocity of the fluid.

Values  $\pm$  10% at 930 rpm. Delivery rate depends on the velocity of the fluid.

## Performance Chart



|   |   |   |   |
|---|---|---|---|
| <b>Type</b>   | <b>F 550 S-54/26 TR</b>   |   |   |
| Delivery rate max.  | 13 GPM  |   |   |
| Delivery head max.  | 116 PSI   |   |   |
| Thread on inlet/outlet  | inlet: G 2 A (BSP 2" male); outlet: G 1½ A (BSP 1½ male)  |   |   |
| Seal type   | mechanical seal in ceramic oxide, o-rings in FKM  |   |   |
| Material  | bearing flange in aluminium; flexible shaft and eccentric worm in Stainless steel 316 Ti  |   |   |
| Outer-Ø   | 2¼"   |   |   |
| Stator  | stator in PTFE included with the pump   |   |   |
| Explosion-proof according to ATEX-Directive 94/9/EC for use in Zone 1   | EC Type Examination Certificate No. PTB 99 ATEX 4052 X (Ex II 1/2 IIA T4)   |   |   |
| <b>Part No./Weight</b>  | <b>550 25 503/12 lbs</b>  |   |   |
| <b>Type</b>   | <b>F 550 SF-54/26 TR</b>  |   |   |
| Delivery rate max.  | 13 GPM  |   |   |
| Delivery head max.  | 116 PSI   |   |   |
| Thread on inlet/outlet  | inlet and outlet: Clamp 2"  |   |   |
| Seal type   | mechanical seal in SiC, o-rings in FKM (foodgrade)  |   |   |
| Material  | bearing flange, outer tube and eccentric worm in Stainless steel 316 Ti; flexible shaft in Stainless steel 316 Ti with protective coating in PTFE                 |   |   |
| Outer-Ø   | 2¼"   |   |   |
| Stator  | stator in PTFE included with the pump   |   |   |
| Explosion-proof according to ATEX-Directive 94/9/EC for use in Zone 1   | EC Type Examination Certificate No. PTB 99 ATEX 4052 X (Ex II 1/2 IIA T4)   |   |   |
| <b>Part No./Weight</b>  | <b>550 25 692/13 lbs</b>  |   |   |
| <b>Type</b>   | <b>F 560 S-54/26 TR reversible flow</b>   |   |   |
| Delivery rate max.  | 13 GPM  |   |   |
| Delivery head max.  | 116 PSI   |   |   |
| Thread on inlet/outlet  | inlet and outlet: Clamp 2"  |   |   |
| Seal type   | mechanical seal in SiC, o-rings in FKM (foodgrade)  |   |   |
| Material  | bearing flange, outer tube and eccentric worm in Stainless steel 316 Ti; easy to strip down shaft design in Stainless steel 316 Ti for reversible flow operations |   |   |
| Outer-Ø   | 2¼"   |   |   |
| Stator  | stator in PTFE included with the pump   |   |   |
| <b>Part No./Weight</b>  | <b>560 23 104/14 lbs</b>  |   |   |
| <b>Base plate in Stainless steel (316 Ti)</b>   |   |   |   |
| <b>Part No./Weight</b>  | <b>001 15 033/12 lbs</b>  |   |   |
| <b>Pump trolley in Stainless steel (304)</b>  |   |   |   |
| <b>Part No./Weight</b>  | <b>001 15 038/20 lbs</b>  |   |   |
| <b>Hose connection in Stainless steel, complete with union nut or clamp connection</b>  |   |   |   |
|   | <b>Type F 550 S TR</b><br>Outlet G 1½ A (BSP 1½ male)   | <b>Type F 550 S TR</b><br>Inlet G 2 A (BSP 2" male) | <b>Type F 550 SF TR/Type F 560 S TR</b><br>Clamp 2" |
| for flexible hose, inside 1" ID   | 959 04 002/0.4 lbs  | -   | -   |
| for flexible hose, inside 1¼" ID  | 959 04 003/0.7 lbs  | 959 04 059/0.7 lbs                                  | 959 04 137/0.7 lbs                                  |
| for flexible hose, inside 1½" ID  | 959 04 004/0.8 lbs  | 959 04 060/0.8 lbs                                  | 959 04 109/0.8 lbs                                  |
| <b>Drive Motors with bottom flange for Eccentric Worm-Drive Pumps Type F 550 S TR, F 550 SF TR and F 560 S TR</b><br>Three-phase motors 230/400 Volt, 50 Hz, jet-proof IP 55, with motor protection switch, without cable |   |   |   |
| <b>Capacity</b>   | <b>Speed</b>  | <b>Part No./Weight</b>                              |   |
| 1 HP  | 700 rpm   | 001 02 151/48 lbs                                   |   |
| 1.5 HP  | 930 rpm   | 001 02 150/37 lbs                                   |   |

Drive motors with bottom flange in other capacities on request.

# Drive Motors for Eccentric Worm-Drive Pumps

## Drive Motors for Eccentric Worm-Drive Pumps Type F 550 and F 560\* version with bearing flange



E3ph  
Three-phase motor



Compressed air motor

### Three-phase motors 230/400 Volt, 60 Hz, with motor protection switch, without cable

| Capacity | Speed   | jet-proof to | max. Viscosity   | Part No./Weight     |
|----------|---------|--------------|------------------|---------------------|
| 1.1 KW   | 840 rpm | IP 55        | 25.000 mPas (cP) | 001 02 127/27.6 lbs |

### Compressed air motors, max. operating pressure 7 bar, explosion-proof to II 2 G cT5

| Type | Capacity | Speed at 6 bar | Connection              | max. Viscosity   | Part No./Weight     |
|------|----------|----------------|-------------------------|------------------|---------------------|
| G22B | 0,5 kW   | 1000 rpm       | G 3/8 (BSP 3/8" female) | 25.000 mPas (cP) | 001 04 000/11.0 lbs |
| G11A | 1,1 kW   | 1000 rpm       | G 1/2 (BSP 1/2" female) | 50.000 mPas (cP) | 001 04 014/15.4 lbs |
| G28A | 1,8 kW   | 1000 rpm       | G 1/2 (BSP 1/2" female) | pasty            | 001 04 002/22.0 lbs |

## Drive Motors for Eccentric Worm-Drive Pumps Type F 55 GS and F 560 GS version with planetary gear



FEM 4070



F 457/F 457 EL



F 458/F 458-1



F 460 Ex/F 460-1 Ex

### Compressed air motors, max. operating pressure 7 bar, explosion-proof to II 2 G cT5

| Type          | Capacity | protected to         | max. Viscosity   | Part No./Weight version with NVR* | Part No./Weight version without NVR* |
|---------------|----------|----------------------|------------------|-----------------------------------|--------------------------------------|
| FEM 4070      | 500 Watt | splash proof IP 24   | 10.000 mPas (cP) | 407 01 000/5.0 lbs                | 407 01 001/5.0 lbs                   |
| F 457         | 800 Watt | splash proof IP 24   | 30.000 mPas (cP) | 457 01 005/8.8 lbs                | 457 01 002/8.8 lbs                   |
| F 457 EL**    | 800 Watt | splash proof IP 24   | 30.000 mPas (cP) | 457 01 003/8.8 lbs                | 457 01 041/8.8 lbs                   |
| F 458         | 460 Watt | jet-proof to IP 55   | 12.000 mPas (cP) | 458 00 006/11.2 lbs               | 458 00 001/11.2 lbs                  |
| F 458 EL**    | 460 Watt | jet-proof to IP 55   | 12.000 mPas (cP) | 458 00 027/11.2 lbs               | -                                    |
| F 458-1       | 700 Watt | jet-proof to IP 55   | 25.000 mPas (cP) | 458 01 004/13.0 lbs               | 458 01 001/13.0 lbs                  |
| F 460 Ex      | 460 Watt | II 2 G EEx de IIC T6 | 12.000 mPas (cP) | 460 00 006/11.2 lbs               | 460 00 001/11.2 lbs                  |
| F 460 Ex EL** | 460 Watt | II 2 G EEx de IIC T6 | 12.000 mPas (cP) | 460 00 028/11.2 lbs               | -                                    |
| F 460-1 Ex    | 700 Watt | II 2 G EEx de IIC T6 | 25.000 mPas (cP) | 460 01 004/13.0 lbs               | 460 01 001/13.0 lbs                  |

NVR\* = no-volt release

EL\*\* = version with infinitely variable speed variator



F 416 Ex



F 416-1 Ex

### Compressed air motors, max. operating pressure 6 bar, thread for compressed air hose G 1/4 (BSP 1/4" female)

| Type       | Capacity | explosion-proof to | max. Viscosity   | Version            | Part No./Weight    |
|------------|----------|--------------------|------------------|--------------------|--------------------|
| F 416 Ex   | 470 Watt | II G cp IIC T6     | 30.000 mPas (cP) | with trigger valve | 416 00 100/3.1 lbs |
| F 416-1 Ex | 470 Watt | II G cp IIC T6     | 30.000 mPas (cP) | without valve      | 416 00 020/2.0 lbs |



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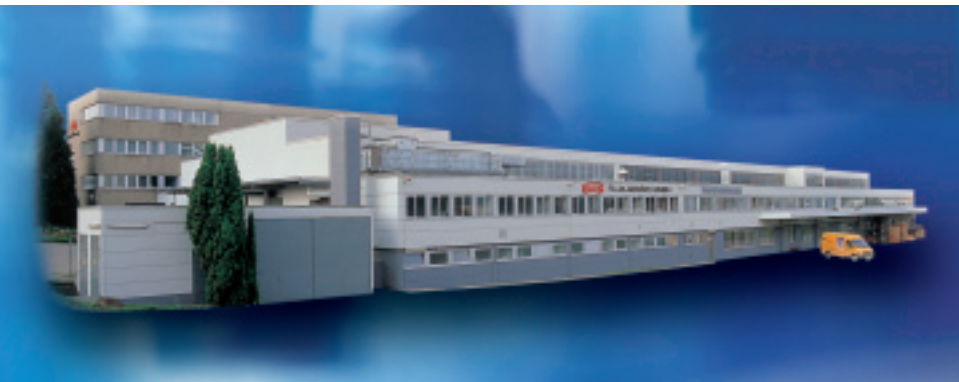
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