

**SEW**  
EURODRIVE



We have got something  
against corrosion:  
**Surface and Corrosion  
Protection**

## Our protection comes as a standard and can be customized to meet all your specific requirements

SEW-EURODRIVE gearmotors come equipped with a standard protection against all common corrosive elements found in an industrial environment, such as moisture, oil, dirt or chemicals. It is possible to operate these motors even in extreme weather conditions due to a number of specific, additional treatments and the use of special materials. The synergy of internal and external preventive measures offers reliable protection for SEW-EURODRIVE drives.

The perfect interaction of the internal and external provisions reliably prevents SEW-EURODRIVE drives from damage, e.g.

- Internal treatment and protection of the standard parts with anti-corrosion treatment
- Top coat with surface protection treatment OS1 to OS4

With a combination of the optional SEW-EURODRIVE protective measures, customized to meet your individual requirements, you lay the foundation for a durable drive when placing your order.

**Driving the world – with innovative drive solutions for all branches of industry and for every application. Products and systems from SEW-EURODRIVE for any application – worldwide. SEW-EURODRIVE products can be found in a variety of industries, e.g. automotive, building materials, food and beverage as well as metal-processing. The decision to use drive technology “made by SEW-EURODRIVE” stands for safety regarding functionality and investment.**



## Solutions for internal and external provisions

### Standard treatment for

All products	<ul style="list-style-type: none"> <li>– Regular, detailed processing</li> <li>– Breather valves usually made of rustproof material</li> <li>– All processed flange and connection surfaces as well as shaft extensions coated with rust-preventing agent</li> </ul>
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### Anti-corrosion treatment for

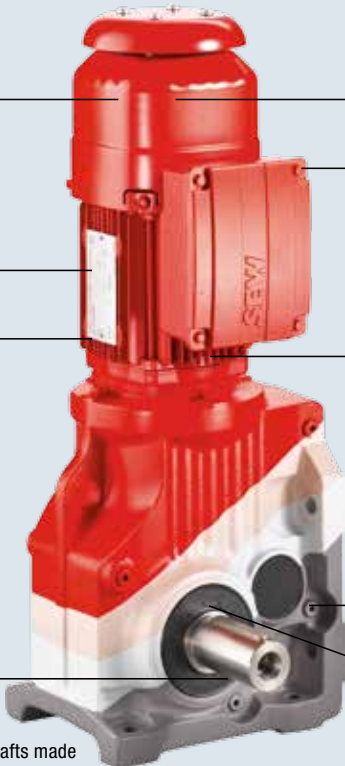
Motors	<p>In addition:</p> <ul style="list-style-type: none"> <li>– Any fastening components regularly opened for operation made of rustproof material</li> <li>– Rustproof nameplates</li> <li>– Internal coating with special enamel</li> </ul>
IP56 motors	<ul style="list-style-type: none"> <li>– Special bearing design (RS on drive-end, 2 RS on non-drive end)</li> <li>– Additional condensation drain hole</li> </ul>
Brakes and backstops	<ul style="list-style-type: none"> <li>– Rubber sealing collars fastened with clamping straps. Pressure plates made of non-corrosive material</li> <li>– Explosion-proof BC and BD brakes, as well as backstops treated with special finishing varnish</li> </ul>
Variable-speed gearmotors VARIMOT® VARIBLOC®	<p>In addition:</p> <ul style="list-style-type: none"> <li>– All non-processed internal surfaces covered with special varnish</li> <li>– Gas-nitrided variable pulleys in VARIBLOC®</li> <li>– Hard chromium plated drive disk in VARIMOT®</li> <li>– Fastening components made of rustproof material</li> </ul>

### Special protection design for output shafts

NOCO® fluid, food grade quality according to NSF-H1	<ul style="list-style-type: none"> <li>– Fretting corrosion protection gel</li> </ul> <p>Suitable for</p> <ul style="list-style-type: none"> <li>– Hollow shaft designs to prevent contact corrosion</li> <li>– Belt pulleys, chain sprockets or coupling halves for easier assembly and to prevent friction corrosion</li> <li>– To protect free machined surfaces that are not or no longer protected from corrosion (shaft ends, flange ...)</li> </ul>
Coating on output shaft extension	<ul style="list-style-type: none"> <li>– Oil seal coated with silicone</li> <li>– Particularly demanding applications</li> </ul>
Output shaft made of stainless steel	<ul style="list-style-type: none"> <li>– Premium quality material</li> <li>– Particularly demanding applications</li> </ul>



## Corrosion protection: Treatment packages for internal treatment and standard parts



Special interior surface coating

Rustproof nameplates

RS bearing for IP56

Special interior surface coating

NOCO® fluid, the contact corrosion inhibitor

Output shafts made of stainless steel

Brakes with pressure plate made of non-corrosive materials

Non-corrosive retaining components

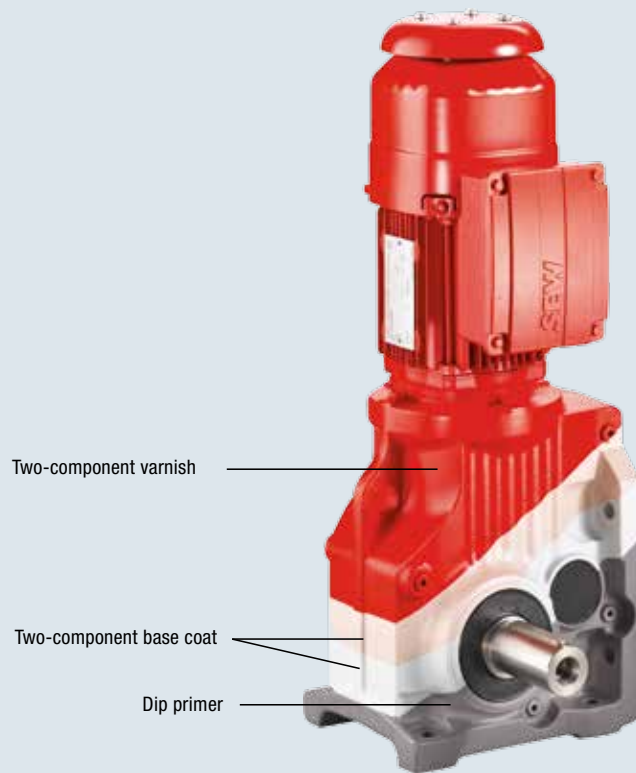
Special interior surface coating

Rustproof breather valves

Optional coating on output shaft end (in the area of the radial oil seal seat)


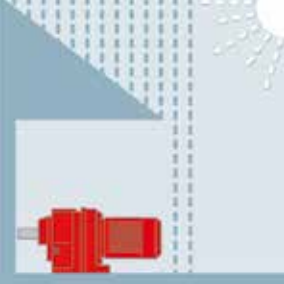



The diagram illustrates a red fire pump with various corrosion protection measures highlighted. A central image of the pump is surrounded by callout boxes and images of specific components. On the left side, from top to bottom: a square component with a grid pattern labeled 'Special interior surface coating'; a metal nameplate labeled 'Rustproof nameplates'; two bearings labeled 'RS bearing for IP56'; two circular components with a grid pattern labeled 'Special interior surface coating'; a small vial and packets labeled 'NOCO® fluid, the contact corrosion inhibitor'; and a shaft labeled 'Output shafts made of stainless steel'. On the right side, from top to bottom: a black circular component labeled 'Brakes with pressure plate made of non-corrosive materials'; a red component labeled 'Non-corrosive retaining components'; a circular component with a grid pattern labeled 'Special interior surface coating'; a brass component labeled 'Rustproof breather valves'; and a shaft end labeled 'Optional coating on output shaft end (in the area of the radial oil seal seat)'.

Surface protection:  
Treatment packages for top coating



Different layers of varnish on  
a helical-bevel gear unit with OS2 coating

## Perfect surface protection for every application

Surface protection		Ambient conditions/sample applications
<b>Standard</b>		<p>Suitable for machines and systems in buildings and rooms indoors with neutral atmospheres.</p> <p>Similar to corrosion category*: C1 (negligible)</p> <p><b>Sample applications</b></p> <ul style="list-style-type: none"> <li>– Machines and systems in the automobile industry</li> <li>– Conveyor systems in logistics areas</li> <li>– Conveyor belts at airports</li> </ul>
<b>OS1</b>		<p>Suitable for environments with condensation, and atmospheres with low humidity or contamination level, such as outdoors applications under roof or with protection.</p> <p>Similar to corrosion category*: C2 (low)</p> <p><b>Sample applications</b></p> <ul style="list-style-type: none"> <li>– Systems in saw mills</li> <li>– Hall gates</li> <li>– Agitators and mixers</li> </ul>
<b>OS2</b>		<p>Suitable for environments with high humidity or mean atmospheric contamination, such as outdoors applications subject to direct weathering.</p> <p>Similar to corrosion category*: C3 (moderate)</p> <p><b>Sample applications</b></p> <ul style="list-style-type: none"> <li>– Applications in amusement parks</li> <li>– Funiculars and chair-lifts</li> <li>– Applications in gravel plants</li> <li>– Systems in nuclear power plants</li> </ul>
<b>OS3</b>		<p>Suitable for environments with high humidity and occasionally severe atmospheric and chemical contamination. Occasionally acidic or caustic wet cleaning. Also for applications in coastal areas with moderate salt load.</p> <p>Similar to corrosion category*: C4 (high)</p> <p><b>Sample applications</b></p> <ul style="list-style-type: none"> <li>– Sewage treatment plants</li> <li>– Port cranes</li> <li>– Mining applications</li> </ul>
<b>OS4</b>		<p>Suitable for environments with permanent humidity and severe atmospheric or chemical contamination. Regular acidic or caustic wet cleaning also with chemical cleaning agents.</p> <p>Similar to corrosion category*: C5-I (very high)</p> <p><b>Sample applications</b></p> <ul style="list-style-type: none"> <li>– Drives in malting plants</li> <li>– Wet areas in the beverage industry</li> <li>– Conveyor belts in the food industry</li> </ul>

Aseptic gearmotor with OS4  
surface protection



## Perfect surface protection for every application

Surface protection		Ambient conditions/sample applications
<b>DAS series aseptic motors</b> OS2-OS4 as option		<p>Suitable for dry or humid hygienic areas with mean atmospheric contamination. Also suitable for particularly dusty environments. Similar to corrosion category*: C3 (moderate)</p> <p><b>Sample applications</b></p> <ul style="list-style-type: none"> <li>– Applications in clean rooms</li> <li>– Machines in the cosmetic and pharmaceutical industry</li> <li>– Systems for processing cereal and flour (without Ex protection)</li> <li>– Conveyor belts in cement plants</li> </ul>
<b>DAS series aseptic motors with ASEPTIC<sup>plus</sup> drive package</b> OS4		<p>Suitable for hygienic areas in the food and beverage industry with permanent humidity and regular acidic and wet cleaning with chemical cleaning agents. Cleaning with compressive stress. Similar to corrosion category*: C5-I (very high)</p> <p><b>Sample applications</b></p> <ul style="list-style-type: none"> <li>– Hygienic and aseptic conveyors in the beverage industry</li> <li>– Systems in cheese dairies and butcher shops</li> <li>– “Splash zones” in the food industry</li> </ul>

\* According to DIN EN ISO 12944-2  
Classification of ambient conditions

## SEW-EURODRIVE is right there for you:

### Argentina

Tel. +54 3327 4572-84  
Fax +54 3327 4572-21  
sewar@sew-eurodrive.com.ar

### Australia

Tel. +61 3 9933-1000  
Fax +61 3 9933-1003  
enquires@sew-eurodrive.com.au

### Austria

Tel. +43 1 617 55 00-0  
Fax +43 1 617 55 00-30  
sew@sew-eurodrive.at

### Belarus

Tel. +375 17 298 47 56  
Fax +375 17 298 47 54  
sales@sew.by

### Belgium

Tel. +32 16 386-311  
Fax +32 16 386-336  
info@sew-eurodrive.be

### Brazil

Tel. +55 19 3835-8000  
sew@sew.com.br

### Cameroon

Tel. +237 233 39 02 10  
Fax +237 233 39 02 10  
sew@sew-eurodrive.cm

### Canada

Tel. +1 905 791-1553  
Fax +1 905 791-2999  
marketing@sew-eurodrive.ca

### Chile

Tel. +56 2 2757 7000  
Fax +56 2 2757 7001  
ventas@sew-eurodrive.cl

### China

Tel. +86 22 25322612  
Fax +86 22 25323273  
info@sew-eurodrive.cn

### Colombia

Tel. +57 1 54750-50  
Fax +57 1 54750-44  
sew@sew-eurodrive.com.co

### Czech Republic

Tel. +420 255 709 601  
Fax +420 235 350 613  
sew@sew-eurodrive.cz

### Denmark

Tel. +45 43 95 8500  
Fax +45 43 95 8509  
sew@sew-eurodrive.dk

### Finland

Tel. +358 201 589-300  
Fax +358 3 780-6211  
sew@sew.fi

### France

Tel. +33 3 88 73 67 00  
Fax +33 3 88 73 66 00  
sew@usocome.com

### Ghana

Tel. +233 303 963 772  
info@sew-eurodrive.com.gh

### Great Britain

Tel. +44 1924 893-855  
Fax +44 1924 893-702  
info@sew-eurodrive.co.uk

### Hungary

Tel. +36 1 437 06-58  
Fax +36 1 437 06-50  
office@sew-eurodrive.hu

### India

Tel. +91 265 3045200  
Fax +91 265 3045300  
marketing@seweurodriveindia.com

### Italy

Tel. +39 02 96 9801  
Fax +39 02 96 980 999  
sewit@sew-eurodrive.it

### Ivory Coast

Tel. +225 21 21 81 05  
Fax +225 21 25 30 47  
info@sew-eurodrive.ci

### Japan

Tel. +81 538 373811  
Fax +81 538 373814  
sewjapan@sew-eurodrive.co.jp

### Kazakhstan

Tel. +7 727 350 5156  
Fax +7 727 350 5156  
sew@sew-eurodrive.kz

### Kenya

Tel. +254 791 398840  
info@sew.co.ke

### Malaysia

Tel. +60 7 3549409  
Fax +60 7 3541404  
sales@sew-eurodrive.com.my

### Mexico

Tel. +52 442 1030-300  
Fax +52 442 1030-301  
scmexico@seweurodrive.com.mx

### Morocco

Tel. +212 522 88 85 00  
Fax +212 522 88 84 50  
sew@sew-eurodrive.ma

### Netherlands

Tel. +31 10 4463-700  
Fax +31 10 4155-552  
info@sew-eurodrive.nl

### New Zealand

Tel. +64 9 2745627  
Fax +64 9 2740165  
sales@sew-eurodrive.co.nz

### Norway

Tel. +47 69 24 10 20  
Fax +47 69 24 10 40  
sew@sew-eurodrive.no

### Paraguay

Tel. +595 991 519695  
Fax +595 21 3285539  
sewppy@sew-eurodrive.com.py

### Peru

Tel. +51 1 3495280  
Fax +51 1 3493002  
sewperu@sew-eurodrive.com.pe

### Poland

Tel. +48 42 293 00 00  
Fax +48 42 293 00 49  
sew@sew-eurodrive.pl

### Portugal

Tel. +351 231 20 9670  
Fax +351 231 20 3685  
infosew@sew-eurodrive.pt

### Russia

Tel. +7 812 3332522  
Fax +7 812 3332523  
sew@sew-eurodrive.ru

### Singapore

Tel. +65 68621701  
Fax +65 68612827  
sewsingapore@sew-eurodrive.com

### Slovakia

Tel. +421 2 33595 202  
Fax +421 2 33595 200  
sew@sew-eurodrive.sk

### South Africa

Tel. +27 11 248 7000  
Fax +27 11 248 7289  
info@sew.co.za

### South Korea

Tel. +82 31 492-8051  
Fax +82 31 492-8056  
master.korea@sew-eurodrive.com

### Spain

Tel. +34 94 4318470  
Fax +34 94 4318471  
sew.spain@sew-eurodrive.es

### Sweden

Tel. +46 36 34 42 00  
Fax +46 36 34 42 80  
jonkoping@sew.se

### Switzerland

Tel. +41 61 41717-17  
Fax +41 61 41717-00  
info@imhof-sew.ch

### Tanzania

Tel. +255 22 277 5780  
Fax +255 22 277 5788  
info@sew.co.tz

### Thailand

Tel. +66 38 454281  
Fax +66 38 454288  
sewthailand@sew-eurodrive.com

### Turkey

Tel. +90 262 999 1000-04  
Fax +90 262 999 1009  
sew@sew-eurodrive.com.tr

### Ukraine

Tel. +380 56 370 3211  
Fax +380 56 372 2078  
sew@sew-eurodrive.ua

### United Arab Emirates

Tel. +971 4 8806461  
Fax +971 4 8806464  
info@sew-eurodrive.ae

### Uruguay

Tel. +598 2 2118189  
Fax +598 2 2118190  
sewuy@sew-eurodrive.com.uy

### USA

Tel. +1 864 439-7537  
Fax +1 864 439-7830  
cslyman@seweurodrive.com

### Uzbekistan

Tel. +998 71 2359411  
Fax +998 71 2359412  
sew@sew-eurodrive.uz

### Venezuela

Tel. +58 241 832-9804  
Fax +58 241 838-6275  
ventas@sew-eurodrive.com.ve

## How we're driving the world



**SEW-EURODRIVE**  
Driving the world

**SEW**  
**EURODRIVE**

SEW-EURODRIVE GmbH & Co KG  
P.O.Box 30 23  
76642 Bruchsal/Germany  
Tel. +49 7251 75-0  
Fax +49 7251 75-1970  
sew@sew-eurodrive.com

→ [www.sew-eurodrive.com](http://www.sew-eurodrive.com)