



## Push-Pull Chains by iwis: compact, flexible, strong!

**Chain engineering for the tightest spaces:** the compact design of iwis Push-Pull Chains makes them ideal for the transmission of both compressive and tensile forces – even without chain guides.

Our innovative strength and specialist knowledge enable us to offer our customers **solutions that were previously unthinkable in such restricted spaces**. Proof is provided by numerous registered **patents** and **successfully implemented customer projects**. Together, we move the world.



## Highly innovative, but “unrecognised”

Push-Pull Chains are capable of solving problems in a wide number of applications. Wherever conventional roller chains or other standard drive components are no longer an option e.g. in confined or restricted spaces, Push-Pull Chains are a viable alternative in many cases.

Our R&D department offers you expert support and advice in developing a solution for your specific needs. Our specialists will be pleased to help.

### Highlights

- Push-Pull Chains are only flexible in one direction
- Compact design for maximum functionality
- Suitable for pushing loads and bridging gaps without chain guides
- Conversion of translational tensile and compressive forces into rotational motion and vice versa
- Variety of material specifications can be supplied
- Available in various dimensions available
- JWIS endpieces are the interface between Push-Pull Chain and traction/propulsion element; they create the chain pre-tensioning required.
  - Easy fitting with standard components
  - Individual interface available on request

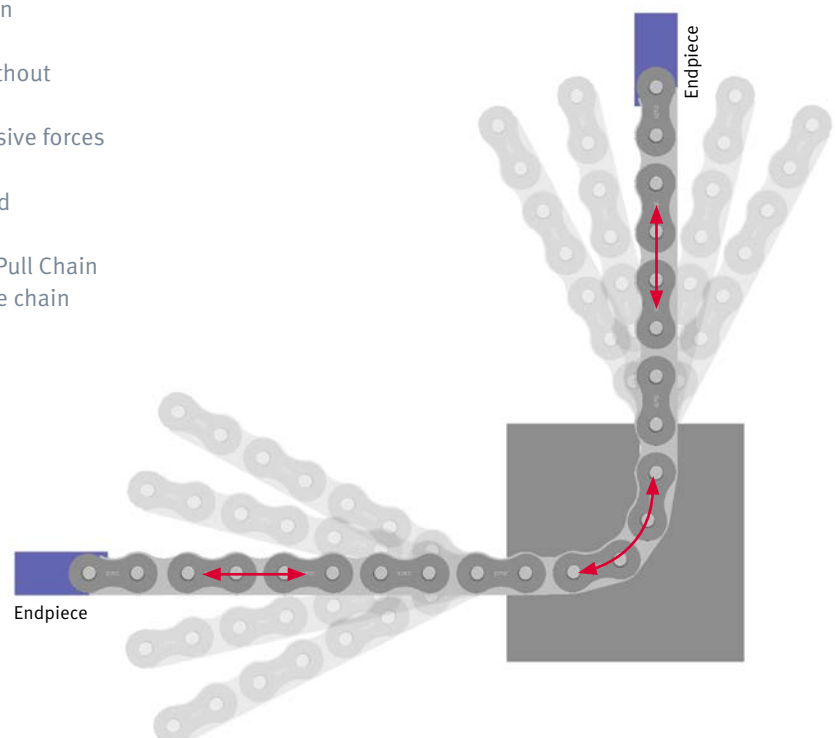
### Applications

- General mechanical engineering
- Medical technology
- Automotive engineering
- Conveyor systems
- Building services engineering
- Machine tools
- Ergonomic workplace design and furniture

## Rotational, translational, compact

Push-Pull Chains can perform the same functions as linear drives, so an endless, continuous chain drive is often no longer necessary. The side-bow and back-bend capabilities of Push-Pull Chains can be individually customised, which offers a wide range of versatile solutions. An added bonus of these chains is their extremely compact design, resulting in space savings of up to 60% – a significant cost factor.

These chains can be supplied in different sizes for a wide range of uses, including applications where large gaps must be bridged.



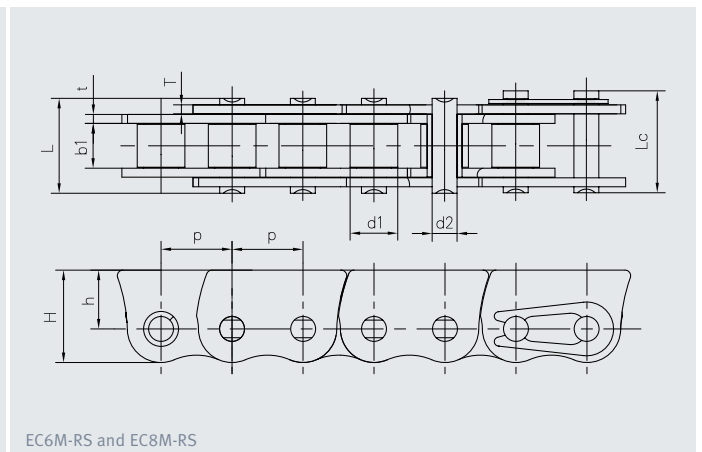
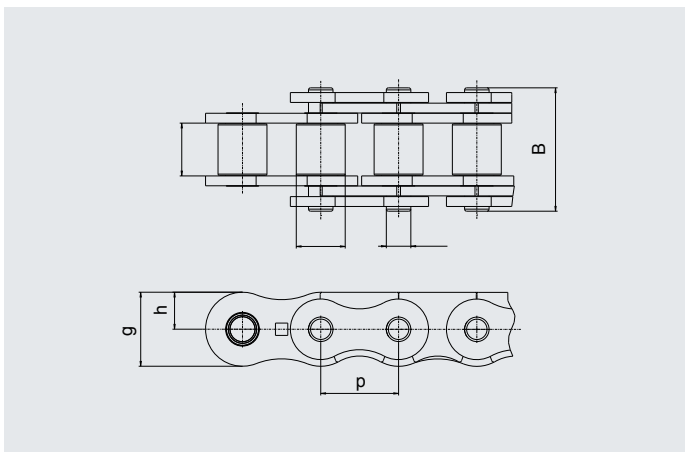


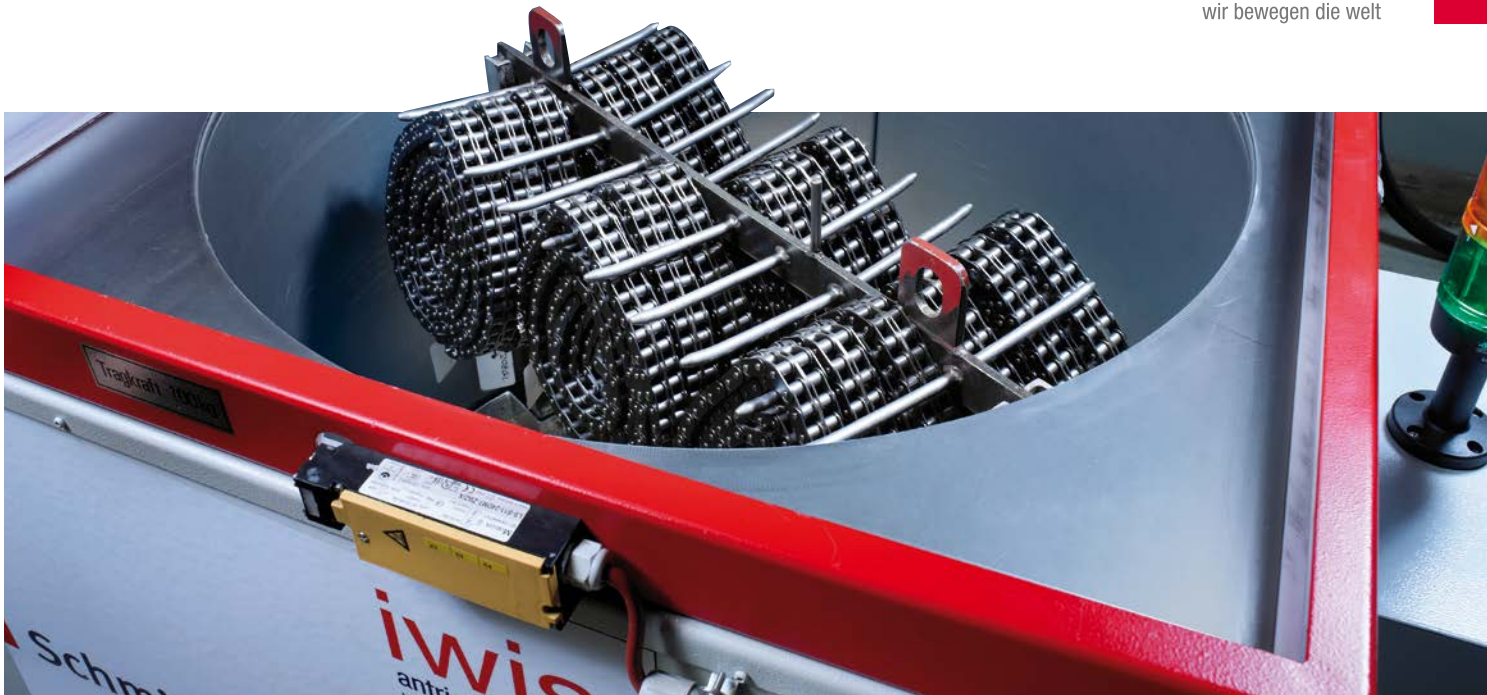
## Product range Push-Pull Chains

| Ref. no.<br>iwis      | Pitch          | Roller diameter     | Width between inner plates | Pin diameter        | Pin length         |                     | Plate dimension |                |                        | Max. compressive force <sup>2)</sup> | Breaking load (tensile)    | Weight           |
|-----------------------|----------------|---------------------|----------------------------|---------------------|--------------------|---------------------|-----------------|----------------|------------------------|--------------------------------------|----------------------------|------------------|
|                       | <b>p</b><br>mm | <b>d1 max</b><br>mm | <b>b1 min</b><br>mm        | <b>d2 max</b><br>mm | <b>L max</b><br>mm | <b>Lc max</b><br>mm | <b>H</b><br>mm  | <b>h</b><br>mm | <b>t / T max</b><br>mm | <b>FD max.</b><br>kN                 | <b>F<sub>t</sub></b><br>kN | <b>q</b><br>kg/m |
| G52 RS <sup>1)</sup>  | 8.00           | 5.00                | 3.16                       | 2.31                | 10.1               | 11.2                | 7.1             | 3.6            | 0.8                    | 0.9                                  | 3.0                        | 0.27             |
| G67 RS <sup>1)</sup>  | 9.525          | 6.35                | 5.72                       | 3.31                | 15.7               | 16.9                | 8.2             | 4.1            | 1.2                    | 1.8                                  | 6.5                        | 0.55             |
| EC6M RS               | 9.525          | 5.08                | 4.80                       | 3.58                | 13.2               | 15.2                | 13.5            | 9.0            | 1.3/2.0                | 1.5                                  | 6.0                        | 0.73             |
| EC8M RS               | 12.70          | 7.92                | 7.90                       | 3.98                | 17.2               | 19.2                | 17.1            | 11.0           | 1.5                    | 3.5                                  | 13.0                       | 1.02             |
| L85 RS <sup>1)</sup>  | 12.70          | 8.51                | 7.75                       | 4.45                | 19.8               | 21.4                | 11.8            | 5.9            | 1.7/1.5                | 3.8                                  | 13.0                       | 0.93             |
| M106 RS <sup>1)</sup> | 15.875         | 10.16               | 9.65                       | 5.08                | 22.8               | 24.2                | 14.4            | 7.2            | 1.7/1.6                | 5.7                                  | 16.0                       | 1.56             |
| M128A RS              | 19.05          | 11.91               | 12.60                      | 5.96                | 30.0               | 31.4                | 18.0            | 9.0            | 2.4                    | 10.2                                 | 25.0                       | 1.96             |
| M1610A RS             | 25.40          | 15.88               | 15.88                      | 7.92                | 39.0               | 40.9                | 23.0            | 11.5           | 3.2/3.0                | 18.5                                 | 40.0                       | 3.56             |
| M128 ARS              | 19.05          | 11.91               | 12.60                      | 5.96                | 30.0               | 31.4                | 18.0            | 9.0            | 2.4                    | 10.2                                 | 42.0                       | 1.96             |
| M1610 ARS             | 25.40          | 15.88               | 15.88                      | 7.92                | 39.0               | 40.9                | 23.0            | 11.5           | 3.2/3.0                | 18.5                                 | 68.0                       | 3.56             |

<sup>1)</sup> The inner link dimensions of our push pull chains correspond to ISO 606. Smallest sprocket: 10 teeth

<sup>2)</sup> Max. compressive force dependent on chain length and drive parameters.





## Optimum chain lubrication

Adequate and effective lubrication of chain bearings significantly prolongs the service life of a chain. Selection of the correct lubricant in combination with the corresponding lubrication method guarantee reduced wear, adequate corrosion protection and reduction of noise emissions.

The use of **lubricating wax** is recommended for Push-Pull Chains. Wax lubricants provide the necessary corrosion protection, are suitable for a wide temperature range and ideal for applications where relubrication is not specifically required.

**The result: cost savings.**

**iwis offers a choice of two wax lubricants:**

### **IPW**

A high-performance lubricating wax with good adhesion that provides excellent wear protection and permits significantly longer relubrication intervals. Can be used without problems as “barrier grease” in all operating environments with high dust and powder contamination. Temperature range  $-10\text{ }^{\circ}\text{C}$  to  $+80\text{ }^{\circ}\text{C}$ .

### **iwidur**

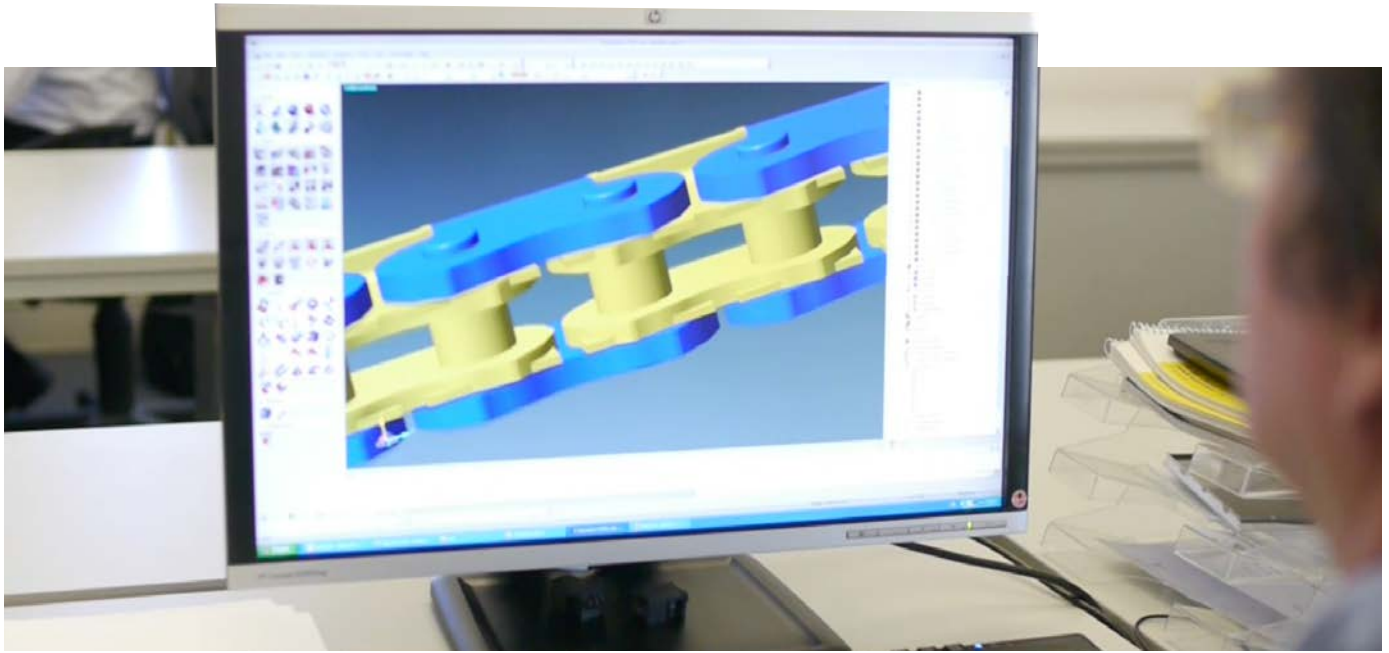
Wax lubricant with a particularly high lubrication, wear resistance and corrosion protection performance. Odourless, insoluble in water, biologically safe and non-toxic; USDA-H1 and LMBG approved. The optimum temperature range is between  $-25\text{ }^{\circ}\text{C}$  and  $+80\text{ }^{\circ}\text{C}$ .

### **Accessories**

iwis also provides a wide range of Push-Pull Chain accessories:

- Sprockets
- Plate wheels
- Deflectors
- System connectors
- Chain guides
- **VARIACTO**® Push-Pull Chains drive

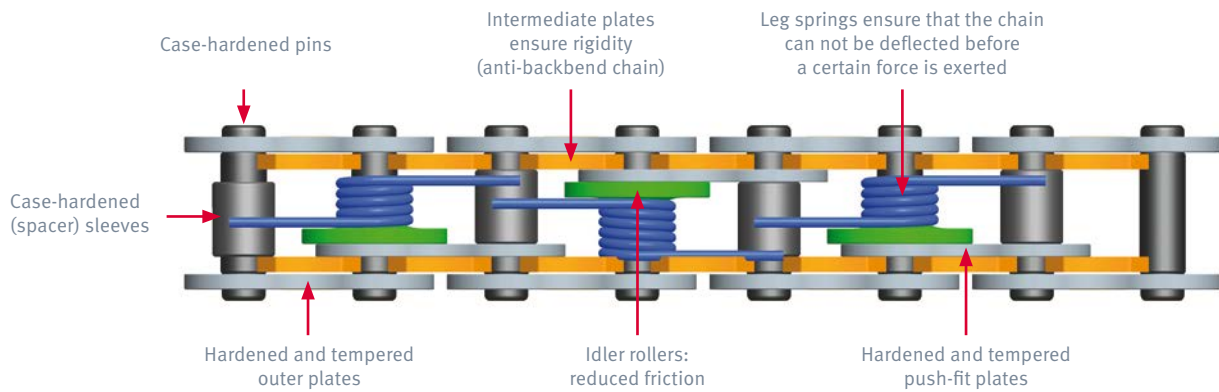




## Engineering at iwis

iwis has been working in the field of Push-Pull Chain research, development and improvement for more than 20 years. The technical characteristics of our products are continuously being improved by a combination of state-of-the-art manufacturing and assembly processes with optimum materials, coatings and geometries.

Our chains are designed in close collaboration with the end users and can be manufactured at various production locations.

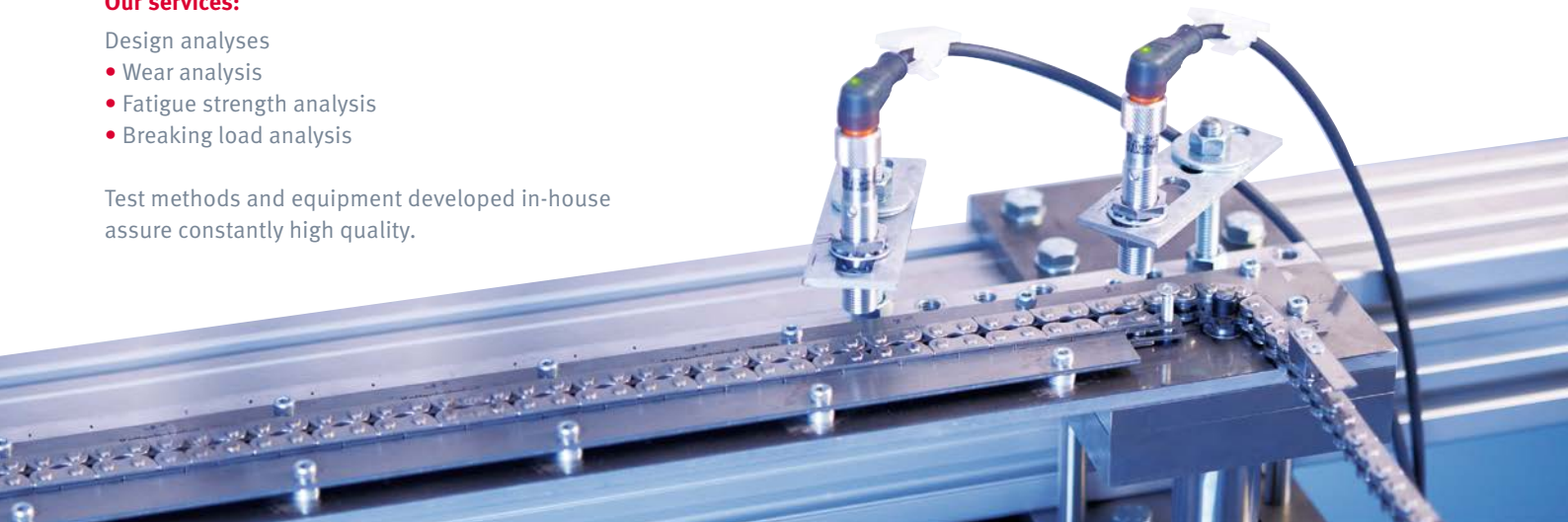


### Our services:

Design analyses

- Wear analysis
- Fatigue strength analysis
- Breaking load analysis

Test methods and equipment developed in-house assure constantly high quality.



# Our subsidiaries

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