EWM® is the brand that powers cutter bars. Loss-free power transmission is the stand-out feature of the EWM® Pro-Drive high-performance drive systems. Traditional drive systems usually lose on stroke force and range as levers and gearwheels control the power flow. Planetary gearboxes are different.

Systems that optimize the power flow

EWM® has the perfect solution for any cutting system. Featuring innovative head bearings and knife heads, EWM® knife drives ensure dependable harvesting all over the world.

Renowned harvester brands in Europe, USA, Canada, Brazil and the Russian Federation rely on EWM® branded planetary knife drives because of their versatility and reliability.
We provide expert advice, select and configure components to individual needs and tailor entire drive system to cutter bars of any size and capacity. Our EWM® brand is the synonym for a long-standing expert in driving rigid and flexible headers. Preventing innovations and developments that meet the demands of today and tomorrow, we are your engineering partners in the following technologies:

- **Modular Pro-Drive** knife drives for high performance classes optionally in vertical or horizontal power flows
- **Economy knife drives** for mid-range performance classes optionally in vertical or horizontal power flows
- **Sensor systems** for knife drives

R&D cooperations and projects

- NDA agreements
- 3D designs
- FEM analysis
- Sample and prototype manufacturing

The sensor technology allows the evaluation of performance data of a combine cutting system. Various system conditions of the cutting system such as deflections or defects can be detected in addition to throughput variations of the crop.

EWM® knife drives with Sensor Technology
**Pro-Drive planetary drives**

Solutions for all your harvest needs

Pro-Drive planetary drives generate an absolutely straight stroke and this results in an equally straight power flow and knife stroke. This loss-free transmission of power into stroke force accounts for unfailing combine performance when crops get difficult.

- High-machine performance
- Optimized drive systems
- Minimum downtime risk
- Low maintenance

**Design and function**

Pro-Drive planetary drives are tailored to the anticipated loads and forces and to the specific driveline.

**Pro-Drive Module series** output features:

* Made to meet the highest standards, Pro-Drive Module series knife drives are used in rigid and flex headers of very large cutting widths.
  - Maximum transferrable power: 10.8 kW
  - Maximum transferrable torque: 109 Nm
  - Maximum rotor speed: 810 u/min

**Pro-Drive Economy series** output features:

* Pro-Drive Economy series knife drives were developed for applications where less drive power is required, for example for sunflower headers.
  - Maximum transferrable power: 3 kW
  - Maximum transferrable torque: 49 Nm
  - Maximum rotor speed: 600 u/min

All knife drives are available with Sensor Technology as an option.

* Figures are based on a grain header with a calculated lifetime of 2 years or 1,500 operating hours.

**EWM® offers a variety of drive solutions that are tailored to the anticipated loads and forces and to the specific driveline.**

**Pro-Drive planetary drives**

Pro-Drive planetary drives generate an absolutely straight stroke and this results in an equally straight power flow and knife stroke. This loss-free transmission of power into stroke force accounts for unfailing combine performance when crops get difficult.

- High-machine performance
- Optimized drive systems
- Minimum downtime risk
- Low maintenance
Module series

Pro-Drive 85MH (AS)
Hydro motor system

These knife drives are ready for connection to a hydro motor. Supplied with an adapter that matches the drive shaft diameter of the hydro motor, the unit typically drives cutter bars that offer various speeds.

Technical data

<table>
<thead>
<tr>
<th>Version</th>
<th>Horizontal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of transmission</td>
<td>Hydraulic, hydro motor</td>
</tr>
<tr>
<td>Knife stroke</td>
<td>85 mm; 100 % linear</td>
</tr>
<tr>
<td>Gear ratio</td>
<td>i = 1</td>
</tr>
<tr>
<td>Head bearing type</td>
<td>27 mm Prisma connection</td>
</tr>
<tr>
<td>Lubricant</td>
<td>Lubricating grease (KP 2, DIN 51502)</td>
</tr>
<tr>
<td>Adapter diameter</td>
<td>25 mm – 32 mm (factory-supplied by order)</td>
</tr>
<tr>
<td>Weight *1</td>
<td>approx. 33.6 kg</td>
</tr>
</tbody>
</table>

*1  Pro-Drive 85MH (AS) 04
Module series

Pro-Drive 85MH (AS)
Cardan shaft system

This flange-mounted knife drive was developed for headers and machines that rely on a cardan shaft to drive the cutter bar. The unit is also available with a regular 1 3/8 inch, six-spline pto shaft as an option. This drive is the unit of choice for headers with variable table widths.

Technical data

<table>
<thead>
<tr>
<th>Version</th>
<th>Horizontal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of transmission</td>
<td>Mechanical, cardan shaft</td>
</tr>
<tr>
<td>Knife stroke</td>
<td>85 mm, 100 % linear</td>
</tr>
<tr>
<td>Gear ratio</td>
<td>i = 1</td>
</tr>
<tr>
<td>Head bearing type</td>
<td>27 mm Prisma connection</td>
</tr>
<tr>
<td>Lubricant</td>
<td>Lubricating grease (9Z2, DIN 51814)</td>
</tr>
<tr>
<td>Weight*1</td>
<td>approx. 33.3 kg</td>
</tr>
</tbody>
</table>

*1 Pro-Drive 85MH (AS) HUK 21
Pro-Drive 85MH (RS)
Pulley drive system

This drive transmits the power to the cutting system via a horizontal pulley. The variable working diameter of the pulley is standardized and factory-fit. Typically used on standard headers.

Technical data

- **Version:** Horizontal
- **Type of transmission:** Mechanical, belt-driven
- **Knife stroke:** 85 mm, 100% linear
- **Gear ratio:** i = 1
- **Head bearing type:** 27 mm Prisma connection
- **Lubricant:** Lubricating grease (KP2, DIN 51502)
- **Pulley diameter:** 178 – 200 mm (selectable, factory-fitted)
- **Belt tread:** C (DIN 2215)
- **Weight:** approx. 32.3 kg

Pulley drive system
Module series

Pro-Drive 85MV (RS)

Pulley drive system

This knife drive transmits the power to the cutting system via a vertical pulley which guides the belt without redirecting the power flow. Choice of factory-fitted pulleys. This versatile drive is used in a variety of header types.

Technical data

<table>
<thead>
<tr>
<th>Version</th>
<th>Vertical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of transmission</td>
<td>Mechanical, belt-driven</td>
</tr>
<tr>
<td>Knife stroke</td>
<td>85 mm, 100 % linear</td>
</tr>
<tr>
<td>Gear ratio</td>
<td>i = 1.111</td>
</tr>
<tr>
<td>Head bearing type</td>
<td>27 mm Prisma connection</td>
</tr>
<tr>
<td>Lubricant</td>
<td>Lubricating grease (KP 2, DIN 51502)</td>
</tr>
<tr>
<td>Pulley diameter</td>
<td>180 mm – 240 mm (factory-supplied by order)</td>
</tr>
<tr>
<td>Belt tread</td>
<td>SPC (DIN 7753)</td>
</tr>
<tr>
<td>Weight *1</td>
<td>approx. 35.2 kg</td>
</tr>
</tbody>
</table>

*1 Pro-Drive 85MV (RS)
**Economy series**

**Pro-Drive 80EH (RS)**

Pulley drive system

This compact and light-weight knife drive relies on a hori-

zontal pulley that sends the power directly to the cutter bar,
making it the drive of choice for small rapeseed and sunflower
headers.

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**Technical data**

- **Version**: Horizontal
- **Type of transmission**: Mechanical, belt-driven
- **Knife stroke**: 80 mm; 100 % linear
- **Gear ratio**: i = 1
- **Head bearing type**: 17 mm EasyConnect attachment
- **Lubricant**: Lubricating grease (KP 2, DIN 51502)
- **Pulley diameter**: 200 mm
- **Belt tread**: SPC (DIN 7753)
- **Weight**: approx. 22.6 kg

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**Pro-Drive 80EH (RS)**

Pulley drive system
### Pro-Drive 80EV (RS)

This compact and light-weight knife drive version with vertical pulley has an integral right-angle gearbox which eliminates belt deflection. Choice of factory-fitted pulleys.

#### Technical data

<table>
<thead>
<tr>
<th>Version</th>
<th>Vertical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of transmission</td>
<td>Mechanical, belt-driven</td>
</tr>
<tr>
<td>Knife stroke</td>
<td>80 mm, 100% linear</td>
</tr>
<tr>
<td>Gear ratio</td>
<td>$i = 1$</td>
</tr>
<tr>
<td>Head bearing type</td>
<td>17 mm easyConnect attachment</td>
</tr>
<tr>
<td>Lubricated</td>
<td>Lubricating grease (KP 2 DIN 51502)</td>
</tr>
<tr>
<td>Pulley diameter</td>
<td>180 mm – 240 mm (factory-supplied by order)</td>
</tr>
<tr>
<td>Belt tread</td>
<td>SPC (DIN 7775)</td>
</tr>
<tr>
<td>Weight*</td>
<td>approx. 240 kg</td>
</tr>
</tbody>
</table>

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Economy series

Pro-Drive 80EV (RS)

Pulley drive system
The Pro-Drive 85MV (RS) and Pro-Drive 80eV (RS) knife drives are available with a large range of pulleys in different sizes and specifications. All pulleys have the Profil SPC (DIN 7753) tread as standard. Further pulleys for paired and poly belts are available on request.
Head bearing for Pro-Drive planetary drives

A unique connection

Pro-Drive planetary drives transmit the power to the cutting system via custom-design bearings. EWM® head bearings offer two different connections that suit the specific knife drive.

The head bearings for the Pro-Drive M series drives have prismatic connections. Fixed by two bolts, the snug-fit design offers particularly high resistance to stress and strain.

By contrast, Pro-Drive E series drives feature the EasyConnect connection, which stands out for its very easy, fast and single-bolt assembly.

Head bearing with plastic ring
- Replaceable plastic ring
- This type of connection suits less demanding harvest conditions and medium cutting widths of up to 7.50 m
- For less contaminating conditions

Head bearing with steel ring
- Also for 7.50 m+ cutting widths
- A steel ring allows the power transmission between the drive head and the bearing
- The power flows radially into the core of the head bearing
- Heat can dissipate more easily, more self-adjusting
- Reduces fitting and adjusting errors

Head bearing with steel pot
- Also for 7.50 m+ cutting widths
- A steel pot allows the power transmission between the drive head and the bearing
- The power flows radially into the core of the head bearing
- Heat can dissipate more easily, more self-adjusting
- The bearing is fully enclosed and protected from shock loads and the ingress of soil
Knife heads
The key to the cutting system

Knife heads are as versatile as the machines they are built into. The design and specification of the knife head is critical for the life span of the entire cutting system. Our long-standing experience allows us to design the perfect solution for your cutting system. We design and manufacture your knife head as welded assemblies or the cast assembly.

- A large choice of different assemblies allows you to choose the perfect connection for your cutting system
- Custom production including low-volume series
- Designs with plastic ring or cylindrical hole suit different types of head bearings
- Also available with ball joint to connect to a wobble gearbox

Consistent power flow from the knife head to the cutting system
Economical for high-volume productions
Designs with plastic ring or cylindrical hole to suit different head bearings

Welded assemblies
Cast assemblies
GROUP SCHUMACHER

Components & systems for harvesting machines

GROUP SCHUMACHER is a medium-sized global player in agricultural technology and an employer of more than 500 people around the world.

We are driven by the passion to improve harvester systems and components and make them available to all users.

Drawing on an extensive experience and market proximity, we develop innovative harvesting solutions that boost the productivity of manufacturers, farmers, contractors and dealers alike.

Our portfolio for combine harvesters

- EasyCut II cutting system
- Crop lifter
- Modular reel
- Pre-Drive knife drive
- Straw chopper knife

Our worldwide services:

- Technical cooperation
- R&D projects
- Pre-assemblies
- Custom systems
- Just-in-time dispatch
- Training and consultancy
- Parts supply services
- Marketing & public relations
Perfect Harvest.

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