

# LUBRICANT APPLICATION WITH FELT-ROLLERS

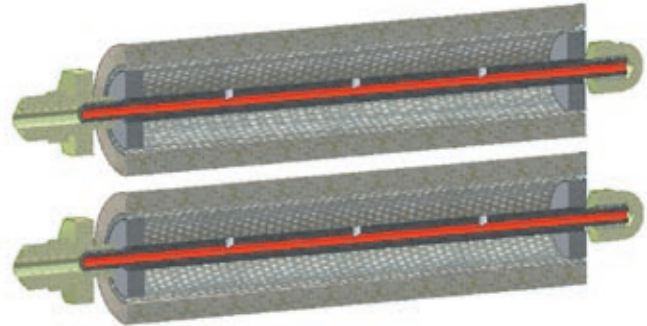


## Felt-roller

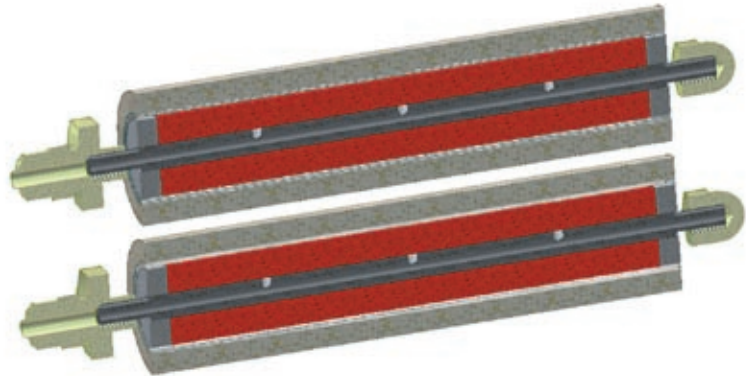
The „felt-roller“ is the most common lubricating device used in metalforming technology.

Technique and function are uncomplex.

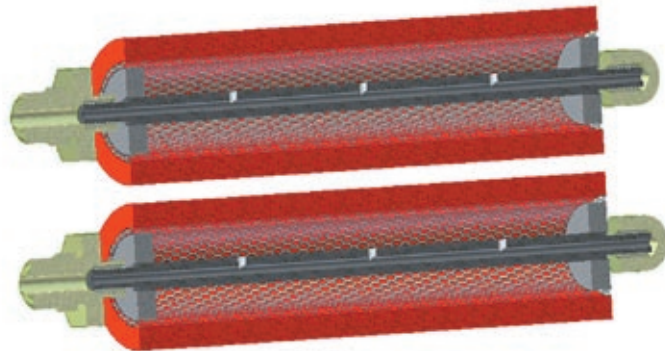
The lubricant is transported with a pump or through an pressure tank to the stationary hollow axle.



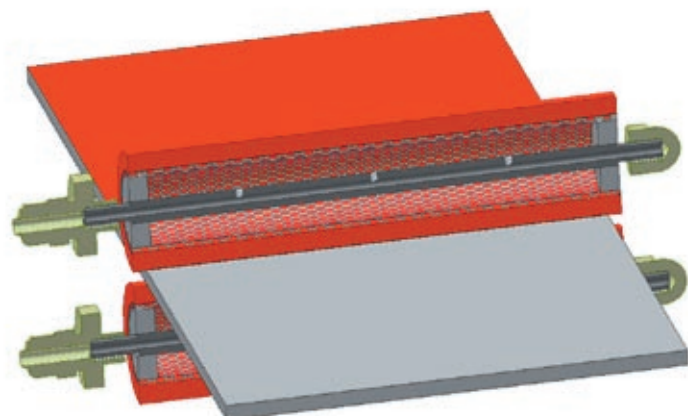
The axle has upright borings. Out of these holes the lubricant is lead to a perforated pipe that carries the felt-roller.



Due to the rotation of the rollers the oil is spread evenly and than soaked up from the felt rollers.



The so soaked rollers transfer the lubricant depending on the degree of saturation to the through passing blanks.



## How to find the right lubricator

### Blank-thickness approx.

up to 0,5 mm	→ roller- Ø 32 mm
from 0,5 to 2 mm	→ roller- Ø 60 mm
from 2 bis 10 mm	→ roller- Ø110 mm

These values are guiding values. They are not sharply defined. Overlaps are possible e.g. a 60mm roller-Ø can be also used for coils or blanks thicker than 2mm if this is the exceptional case and the material is guided properly.

### Coil-width from - up to (“60% - rule“)

Example for the right choice of the felt-roller-lubricator for a maximum coil-width of 500mm.

$$\begin{aligned}\text{Coil-width max.} \times 60\% &= \text{coil-width min.} \\ 500 \times 60\% &= 300 \text{ mm}\end{aligned}$$

With a roller-width of 500mm coils or blanks from 300 to 500mm width can be lubricated “**60% - rule**“.

**Changing-rollers** or **sectional units** have to be used for coil-widths less than 60% of the maximum coil-width.

### Oil-viscosity

The oil-viscosity can not be arbitrary high because the lubricant-feed occurs from the inside and the felt cover has only a certain absorptive capacity.

A viscosity up to approx. 120 mm<sup>2</sup>/sec. at 40°C can be applicated with the standard felt-rollers.

Higher viscosities up to approx. 300 mm<sup>2</sup>/sec in exceptiona cases can be still applicated from the inside with a perforated special-felt-roller.

Physical conditioned the amount of lubricant is higher.

### Further lubricant restrictions

No mediums with solid particles can be applicated. The felt cover operates like a very good filter and would clog up immediatly.

Many emulsions tend to gummy as they get dry thus they also clog up the felt-cover.

---



## Coil-lubrication Roller-lubricators series WF 32

rollers - Ø 32 mm, felt-cover

for thickness up to approx. 0,5 mm

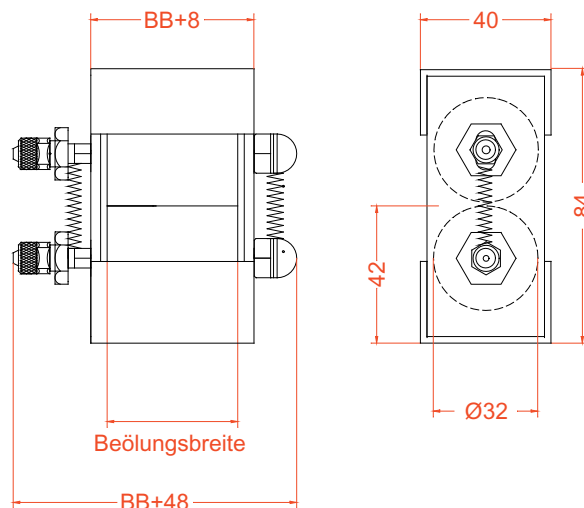
oil-viscosity up to approx. 100 mm<sup>2</sup>/s

	lubrication- width	housing- width	total-width	housing- depth	housing- height	inlet-height
	approx. from - up to	mm	mm	mm	mm	mm
<b>WF 15/32</b>	to 15 mm	23	63	40	84	42
<b>WF 20/32</b>	to 20 mm	28	68	40	84	42
<b>WF 30/32</b>	to 30 mm	38	78	40	84	42
<b>WF 50/32</b>	30 - 50 mm	58	98	40	84	42
<b>WF 75/32</b>	45 - 75 mm	83	123	40	84	42
<b>WF 100/32</b>	60 - 100 mm	108	148	40	84	42
<b>WF 150/32</b>	90 - 150 mm	158	198	40	84	42
<b>WF 200/32</b>	120 - 200 mm	208	248	40	84	42
<b>WF 250/32</b>	150 - 250 mm	258	298	40	84	42
<b>WF 300/32</b>	180 - 300 mm	308	348	40	84	42

**WF ?/32** ? = possibility of intermediate sizes - please inquire

Ü = guiding value

## oil-feed - dosing-system **DOS 10 LOGO**





## Coil-lubrication

### Roller-lubricators series WF 60

rollers - Ø 60 mm, felt-cover

for thickness up to approx. 2,0 mm

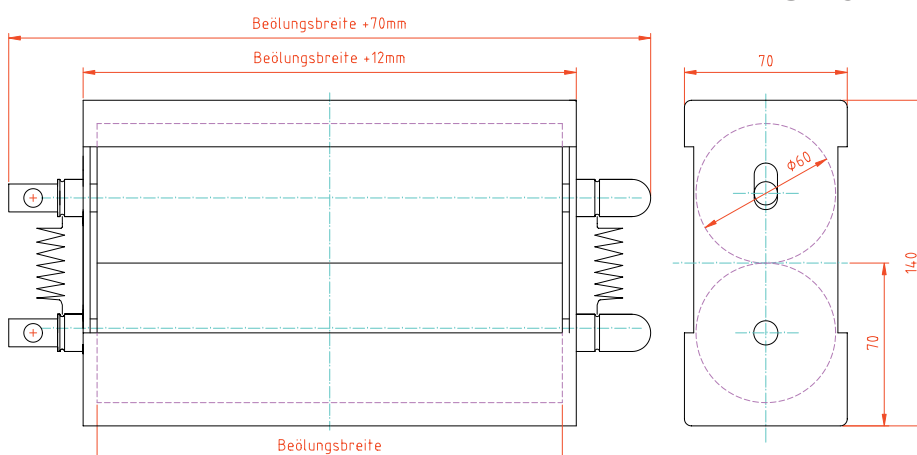
oil-viscosity up to approx. 120 mm<sup>2</sup>/s

	lubrication- width	housing- width	total-width	housing- depth	housing- height	inlet-height
	approx. from - up to	mm	mm	mm	mm	mm
<b>WF 50/60</b>	to 50 mm	62	120	70	140	70
<b>WF 75/60</b>	45 - 75 mm	87	145	70	140	70
<b>WF 100/60</b>	60 - 100 mm	112	170	70	140	70
<b>WF 150/60</b>	90 - 150 mm	162	220	70	140	70
<b>WF 200/60</b>	120 - 200 mm	212	270	70	140	70
<b>WF 250/60</b>	150 - 250 mm	262	320	70	140	70
<b>WF 300/60</b>	180 - 300 mm	312	370	70	140	70
<b>WF 350/60</b>	210 - 350 mm	362	420	70	140	70
<b>WF 400/60</b>	240 - 400 mm	412	470	70	140	70
<b>WF 450/60</b>	270 - 450 mm	462	520	70	140	70
<b>WF 500/60</b>	300 - 500 mm	512	570	70	140	70
<b>WF 600/60</b>	360 - 600 mm	612	670	70	140	70

**WF ?/60** ? = possibility of intermediate sizes - please inquire

Ü = guiding value

### oil-feed - dosing-system **DOS 10 LOGO**





## Coil-lubrication

### Roller-lubricators series WF 110

rollers - Ø 110 mm, felt-cover

for thickness up to approx. 10 mm

oil-viscosity up to approx. 120 mm<sup>2</sup>/s

	lubrication- width	housing- width	total-width	housing- depth	housing- height	inlet-height
	approx. from - up to	mm	mm	mm	mm	mm
<b>WF 75/110</b>	45 - 75 mm	101	285	140	280	130
<b>WF 100/110</b>	60 - 100 mm	126	310	140	280	130
<b>WF 150/110</b>	90 - 150 mm	176	360	140	280	130
<b>WF 200/110</b>	120 - 200 mm	226	410	140	280	130
<b>WF 250/110</b>	150 - 250 mm	276	460	140	280	130
<b>WF 300/110</b>	180 - 300 mm	326	510	140	280	130
<b>WF 350/110</b>	210 - 350 mm	372	580	140	280	130
<b>WF 400/110</b>	240 - 400 mm	426	630	140	280	130
<b>WF 450/110</b>	270 - 450 mm	476	680	140	280	130
<b>WF 500/110</b>	300 - 500 mm	526	730	140	280	130
<b>WF 600/110</b>	360 - 600 mm	626	830	140	280	130
<b>WF 700/110</b>	420 - 700 mm	726	930	140	280	130
<b>WF 800/110</b>	480 - 800 mm	826	1030	140	280	130
<b>WF 900/110</b>	540 - 900 mm	926	1130	140	280	130
<b>WF 1000/110</b>	600 - 1000 mm	1026	1230	140	280	130
<b>WF 1100/110</b>	660 - 1100 mm	1126	1330	140	280	130
<b>WF 1200/110</b>	720 - 1200 mm	1226	1430	140	280	130

**WF ?/110** ? = possibility of intermediate sizes - please inquire

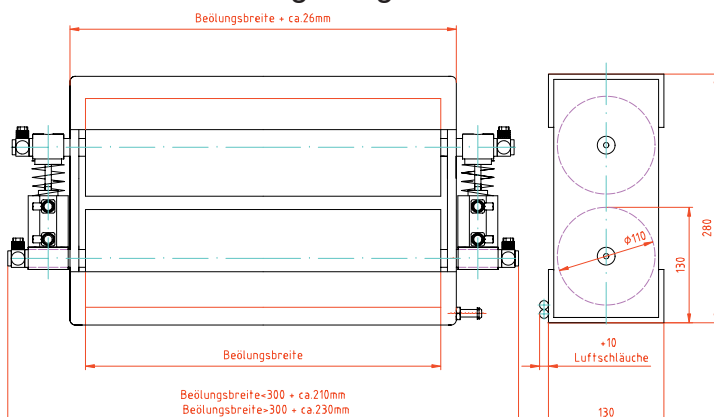
Ü = guiding value

**oil-feed -**

**dosing-system**

**DOS 10 HUB - L**

**DOS 40 HUB - L**



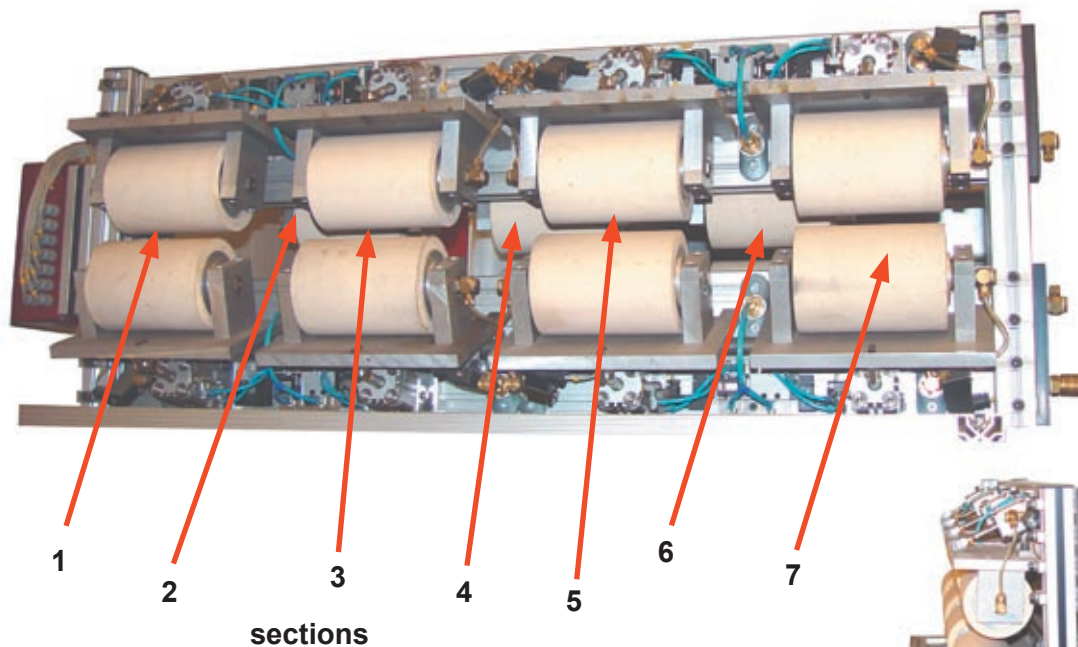
## changing-rollers



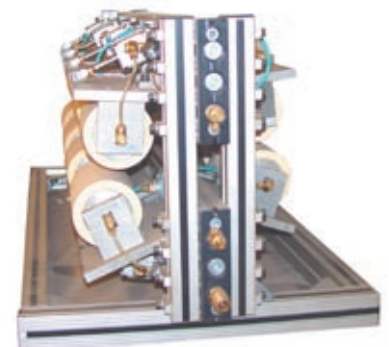
In one basic housing several width of rollers can be mounted (60%-rule). You can also mount different rollers for different types of oil.



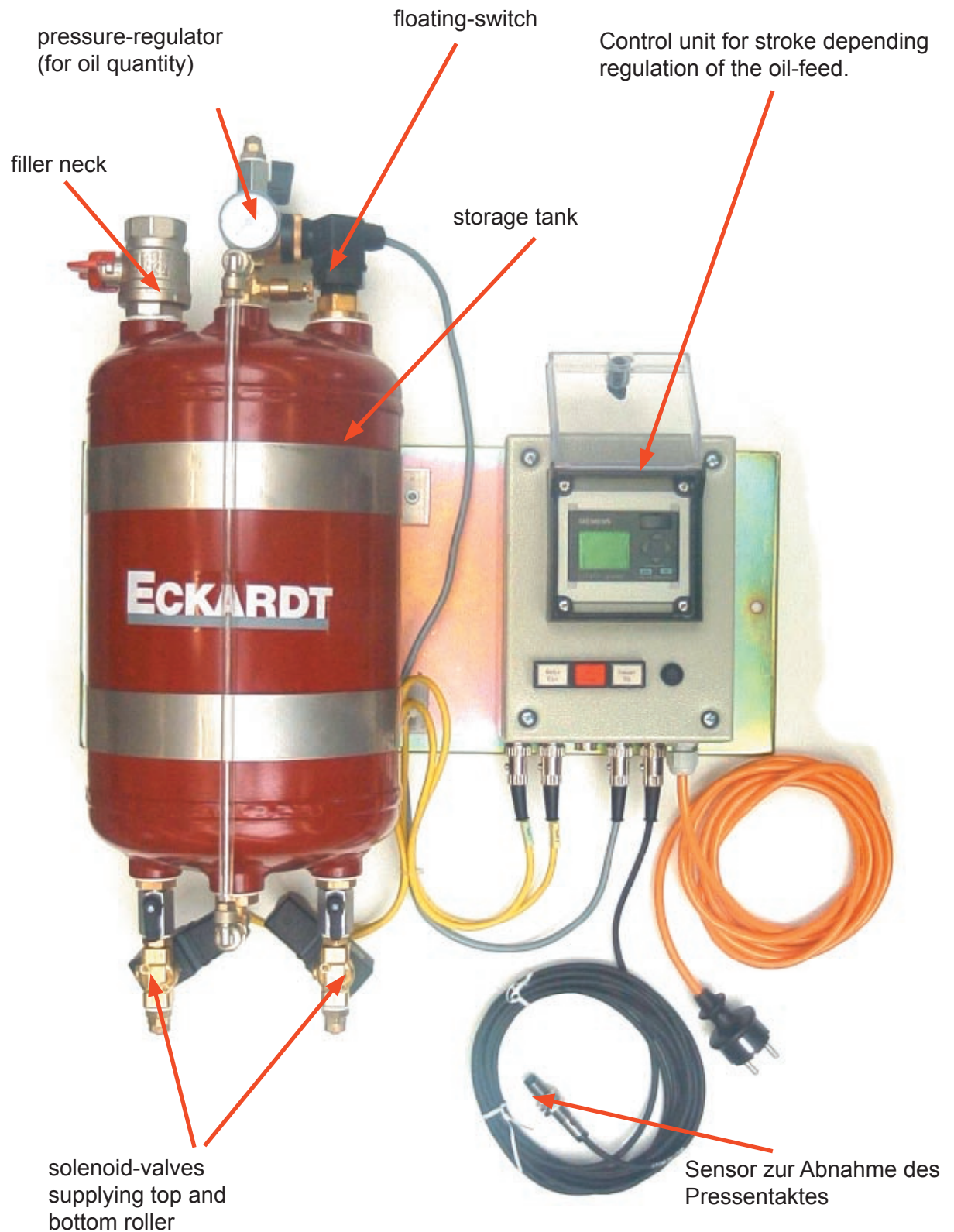
## Sectional lubricators



With a sectional lubricator specified areas (sections) can be switched on or off depending on the coil-width. Each roller has its own oil-feed thus the different sections can applicatte differing amounts of oil.



**Dosing-system (example)**





## Felt-roller lubricators

### Advantages

- easy to use technique .
- low space requirements in passing through direction
- no complex control engineering
- budget-priced devices
- short term delivery periods

### Disadvantages

- wear and tear of the felt-cover
- felt-cover has to be replaced and can not be refreshed
- oil-viscosity has to be low
- most emulsions are not suitable for use with felt-rollers
- roller-width has to be adapted to the coil-width (60%-rule)
- change of oil is not practical
- inert reaction changing the amount of applied oil
- homogeneous layers less than 2 gr/m<sup>2</sup> are not possible
- lubrication width just up to approx. 2000 mm (sectional lubricators)