30% less air consumption

The new U series – the air saver

Key arguments for the U-clamp

- **30%** less air → reduced operating costs & CO2 consumption
- First really fully encapsulated clamp unit → dustproof mechanics
- Two part sensor system **T24** → Query block easy to exchange
- **1:1** compatible to V-Series → interchangeable
- Both air connections in the cylinder bottom → better accessibility
- Many new options i.a. welding splatter protection **W**, stop valve in cylinder bottom **H**, integrated retainer for open position **RB**

U-clamp replaces the Vario-clamp

Shorter, faster, lighter: The “universal clamp” combines these efficiency-enhancing parameters and creates additional space in the jig. On the basis of an intelligent and compact design the universal clamp replaces the previous Vario Clamp with the same specification:

- Same clamping force
- Same holding force
- Same mounting dimensions
- Same lifecycle (3 Mio.)
- Stepless adjustable opening angle from 5 - 135°

Size comparison U – / V – Series

V 63.1 BR4

U 63

- Compatible arms and connections
- U 63 is shorter and smaller
- **Compressed air consumption reduced by 30%**

That is new about the U-clamp

- New force optimized knee lever mechanic
- With the same force, smaller cylinder diameters are used
  - 63mm cylinder used in U 80 clamp
  - 50mm cylinder used in U 63 clamp
  - 40mm cylinder used in U 50 clamp
  - 32mm cylinder used in U 40 / U40.5 clamp
  - ➢ **Reduced air consumption by 30 %**
- Smaller length by U50/U63
- Both air connections spaced in cylinder bottom
- Fully encapsulated aluminium housing – no switch slot anymore
- New two-parts switch
- **120°** opening angle in U2 Position for Arm A40

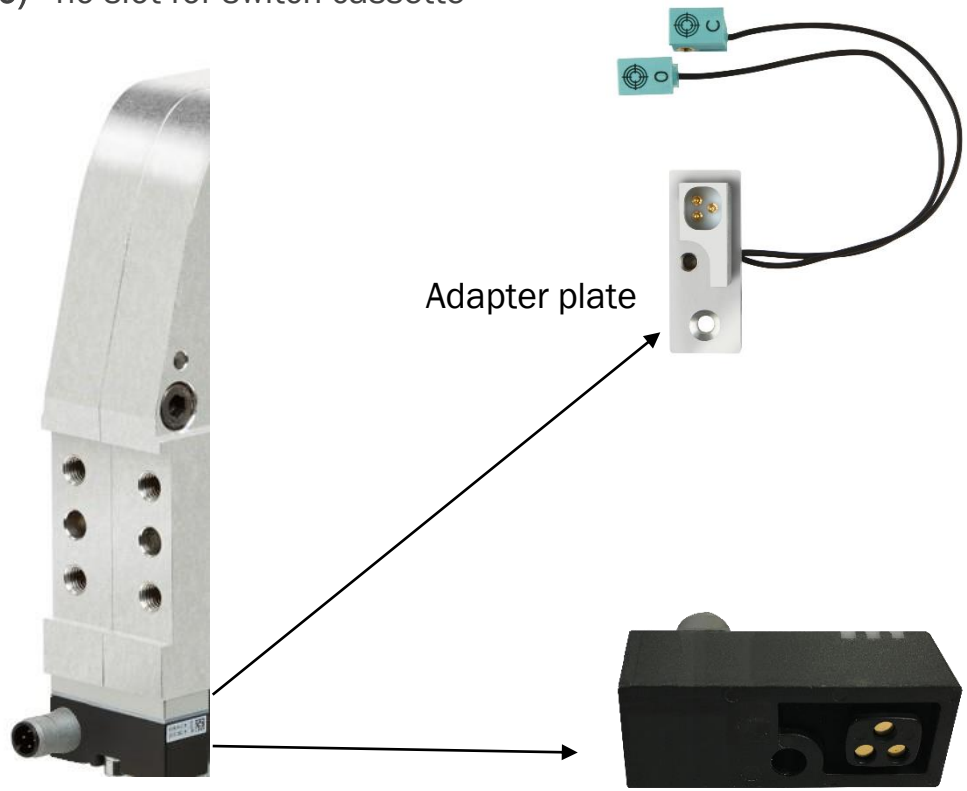
U 63 BR5

Bild: T24.2

Bild: T24.3

Plug-in sensor replaces switch cassette

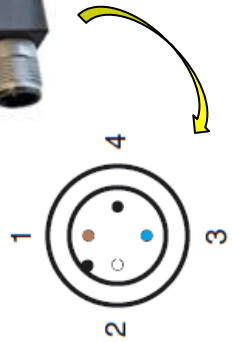
- **Housing completely enclosed (backside too)** - no slot for switch cassette



- **Shock proof assembly**
- Sensor satellites are protected and mounted in the clamp housing
- Adapter plate with plug-in contact is rigidly connected to housing

T24.2

T24.3



Switch block with electronics / LED with M12 connector attached via pin connectors on the adapter plate

Performance comparison U 50 BR5 to V 50.1 BR4

1 year run-time, 1000 units	V 50.1 BR3	U 50 BR5	comparsion U to V
Total length [mm]	321	286	**-11%**
Depth [mm]	69	69	**=**
Weight without arm [kg]	2,8	2,6	**-7%**
Air consumption [cm³/bar]	**290**	**200**	**-31%**
Clamping torque [Nm]	160	160	**=**
Operating costs [€]	**12.690**	**10.759**	**-15%**
CO2-emissions [kg]	69.216	58.686	**-15%**
Energy consumption [kWh]	115.361	97.811	**-15%**

→ The new U-series with the same perfomance as V-Series needs ***31% less pressurised air,*** *needs less space and* ***saves 15% operational cost***

Performance comparison U 63 BR5 to V 63.1 BR4

1 year run-time, 1000 units	V 63.1 BR4	U 63 BR5	comparsion U to V
Total length [mm]	335	329	**-2%**
Depth [mm]	79	79	**=**
Weight without arm [kg]	3,8	3,7	**-3%**
Air consumption [cm³/bar]	**510**	**360**	**-29%**
Clamping torque [Nm]	380	380	**=**
Operating costs [€]	**17.409**	**14.191**	**-18%**
CO2-emissions [kg]	94.959	77.406	**-18%**
Energy consumption [kWh]	156.261	129.011	**-17%**

→ The new U-series with the same perfomance as V-Series needs ***29% less pressurised air,*** *needs less space and* ***saves 18% operational cost***

All available sizes of U-Series

Performance Parameters	U 40 BR5	U 40.5 BR5	U 50 BR5	U 63 BR5	U 80 BR5
Clamping torque [Nm]	120	120	160	360	800
Length [mm]	278	278	286	329	473
Width [mm]	92	92	108	121	165,5
Depth [mm]	54	54	69	79	109
Weight without clamping arm [kg]	1,5	1,5	2,6	3,7	9,3

Further Options U-Serie

- Air connection at the frontside „LV“ (cylinder bottom must be rotated incl. the cylinder tube)

- Manual version with hand lever „Z“

- Integrated check valve „HO“ in cylinder bottom

- Retaining clip for open position „RB“ integrated in cylinder bottom

- Weld resistant coating on the housing „W“

TÜNKERS
Erfindergeist serienmäßig.

Thank you for your attention

TÜNKERS Maschinenbau GmbH
Pascal Stöters
Am Rosenkothen 4-12
40880 Ratingen

Telefon +49 (0) 2102-45 17-595
Telefax +49 (0) 2102-45 17-9999

E-Mail pascal.stoeters@tuenkers.de
Internet www.tuenkers.de