

30% less air
consumption



The new U series – the air saver

- **30%** less air
- First really fully encapsulated clamp unit
- Two part sensor system **T24** – Query block easy to exchange
- **1:1** compatible to V-Series
- Smaller and lighter than V-Series
- Both air connections in the cylinder bottom
- Many new options i.a. welding splatter protection **W**, stop valve in cylinder bottom **H**, integrated retainer for open position **R**.

- **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 **R**.

According to the applicable law, the company TÜNKERS possesses the following property rights against all third parties that have appealed, which however do not affect the legal status of our property rights. Both property rights are in force. (State 03/2018)

1. German Patent 10 2014 014 857.2
„Toggle-lock clamping device with extended lever arm (Universal clamp)“
2. German Utility Model 20 2015 004 786.6
(Claiming the inner priority of German Patent Application 10 2014 014 857.2)
„Universal clamp with smaller cylinder“

„. Notwithstanding this standard, while maintaining the technical data, smaller cylinder diameters are used according to the invention which lead to a reduction of the compressed air or energy consumption between 25% and 60%“

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 / U 40.5 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



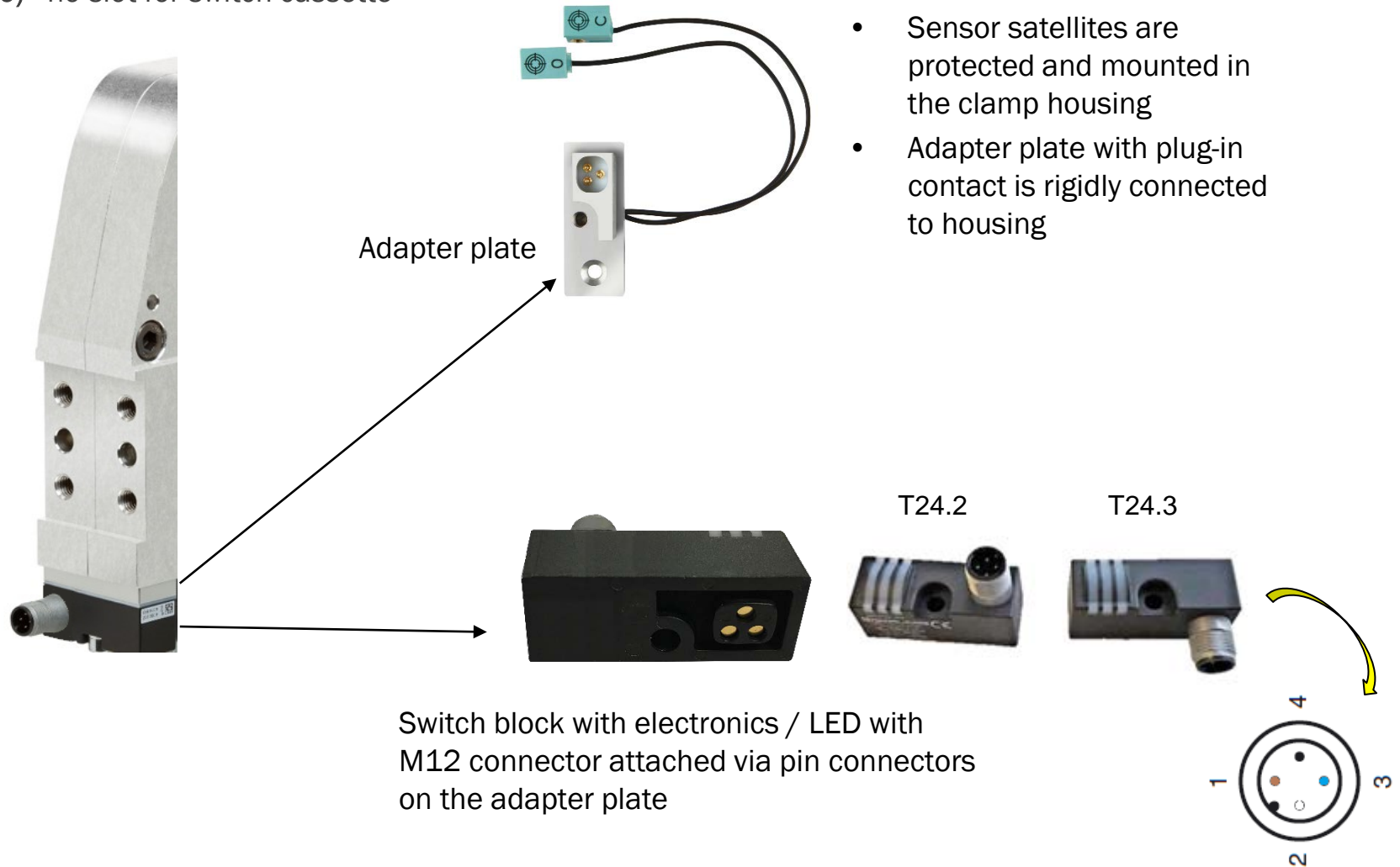
Bild: T24.2



Bild: T24.3

- 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



Performance comparison U 50 BR5 to V 50.1 BR4

<i>1 year run-time, 1000 units</i>	V 50.1 BR3	U 50 BR5	comparison 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 performance 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

<i>1 year run-time, 1000 units</i>	V 63.1 BR4	U 63 BR5	comparison 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%

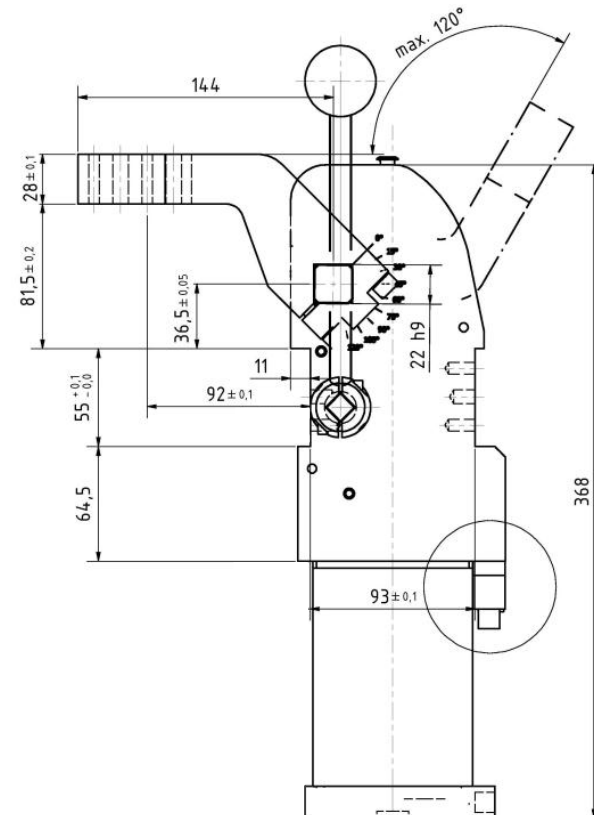
→ The new U-series with the same performance as V-Series needs **29% less pressurised air**, needs less space and **saves 18% operational cost**

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

- Air connection at the frontside „LV“ : Cylinder bottom must be rotated including the cylinder tube
- Weld resistant coating on the housing „W“

Manual version „Z“



Thank you for your attention

TÜNKERS Maschinenbau GmbH
Christian Eickhoff
Am Rosenkothen 4-12
40880 Ratingen

Telefon +49 (0) 2102-45 17-290
Telefax +49 (0) 2102-45 17-9999

E-Mail christian.eickhoff@tuenkers.de
Internet www.tuenkers.de

