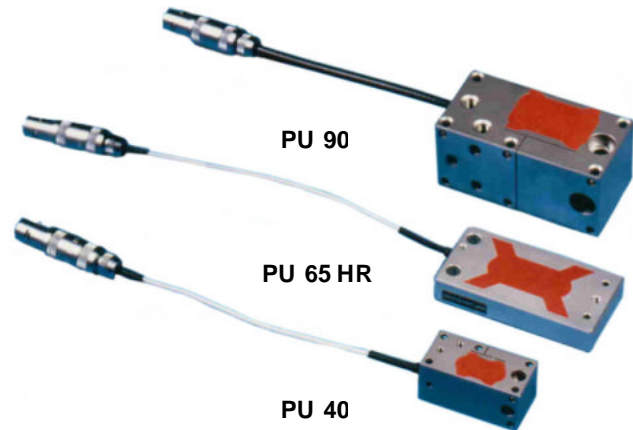


## series PU

- high mechanical stability because of high stiffness
- able to move up to a 60 kg mass
- accurate parallel motion because of parallelogram construction
- motion without mechanical play
- high resolution in nm and sub nm range
- integrated lever transmission
- motion up to 108  $\mu\text{m}$
- xy and xyz configurations are possible
- precision pin holes allow precision mounting



### applications:

- universal application for 1D, 2D and 3D systems
- mechanical engineering, precision tool making
- automation

PU translators consist of only one metallic part. That means that they show excellent mechanical stability and, because they are pre-loaded, can work dynamically. These actuators can support loads up to 600 N and, and generate single axis motion from 40 to 100 microns.

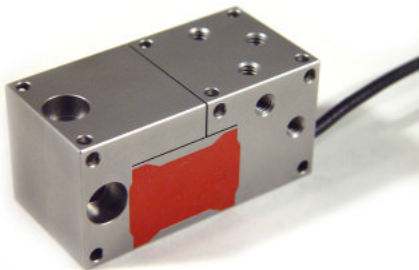
A special translator, the PU 65 HR, is optimized to have a high

series PU part no.	unit	PU 40 T-506-00	PU 90 T-501-00	PU 100 T-502-00	PU 100 HL T-503-00	PU 65 HR T-509-00
motion ( $\pm 10\%$ )**	$\mu\text{m}$	40	90	100	108	65
combinable up to 3 axes		yes	yes	yes	yes	no
max. voltage	V	150	150	150	150	150
capacitance ( $\pm 20\%$ )***	nF	700	1700	3400	6700	1700
resolution open loop*	nm	0.075	0.16	0.18	0.18	0.12
resonant frequency	Hz	1270	350	390	510	1320
stiffness	N/ $\mu\text{m}$	0.8	1.5	1.7	2.4	0.75
force generation	N	32	135	170	250	50
max. load	N	100	150	300	600	20
connector		LEMO OS. 302	LEMO OS. 302	LEMO OS. 302	LEMO OS. 302	LEMO OS. 302
weight	g	27	72	72	174	28
dimensions	length L	mm	28.5	50.5	50.5	50
	width B	mm	14	25	25	25
	height H	mm	14	25	25	25
C	mm	10	20	20	20	-
E	mm	8	15	15	15	-
J	mm	4	5	5	5	-
M	mm	M2 x 3	M4 x 6	M4 x 6	M4 x 6	-
N	mm	$\varnothing 2.67 \times 4$	$\varnothing 2.5G7 \times 4$	$\varnothing 2.5G7 \times 4$	$\varnothing 2.5G7 \times 4$	-
P	mm	$\varnothing 2.2 / \varnothing 4 \times 4$	$\varnothing 4.4 / \varnothing 8 \times 4$	$\varnothing 4.4 / \varnothing 8 \times 4$	$\varnothing 4.4 / \varnothing 8 \times 4$	-

- \* measured with E-103-18 amplifier
- \*\* typical value measured with -10V to 150V
- \*\* typical value for small electrical field strength

**PU with integrated measurement system:**

series PU with integrated measurement system part no.	unit	PU 40 SG T-506-01	PU 90 SG T-501-01	PU 90 CAP T-501-06	PU 100 SG T-502-01	PU 100 HL SG T-503-01	PU 100 CAP T-502-06	PU 100 HL CAP T-503-06
motion** open loop	µm	40	90	90	100	108	100	100
closed loop	µm	32	72	72	80	86	80	80
dimensions	-	(PU 40)	(PU 90)	see drawing	(PU 100)	(PU 100)	see drawing	see drawing
non-linearity**	%	0.17	0.33	0.07	0.08	0.2	0.04	0.11
repeatability**	nm	33	132	31	28	26	8	30



**specifications:**

operating voltage: -10 to +150 V  
 temperature range: -20 to 80 °C  
 housing: stainless steel/ aluminium  
 connector: LEMO  
 cable length: 1 m

**options:**

- integrated measurement systems for closed loop control (strain gauge, accurate to typically better than 0.2%, capacitive typ. 0.05%), repeatability 8-35 nm
  - other materials (nonmagnetic stainless steel; anodized aluminum; titanium)
  - application for vacuum and low temperature
- Other modification available upon request.



**PU 100 CAP**

**PU XYZ configurations:**

series PU XYZ part no.	PU XYZ 40 T-507-00	PU XYZ 90 T-504-00	PU XYZ 100 T-505-00
motion in xyz (±10%)** in µm	100 x 100 x 100	90 x 90 x 90	100 x 100 x 100

\*\* typical value measured with -10V to 150V

PU xyz 100 with strain gauge measurement systems available upon request.