

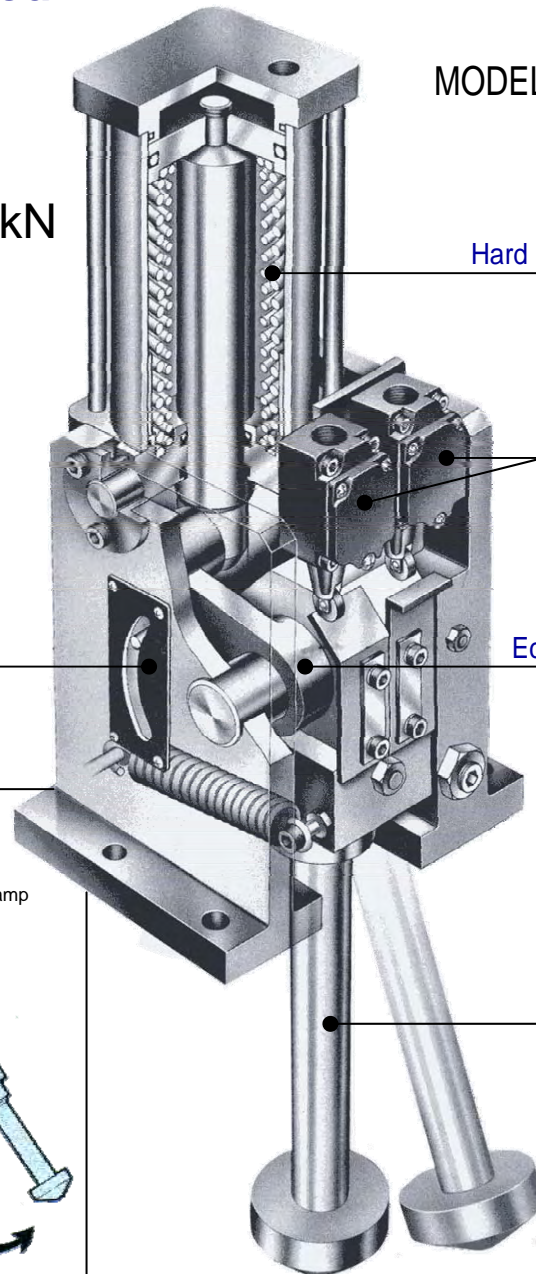
# PASCAL ROD-SWING CLAMP

air-operated

# TNA

MODEL

**Die Holding Force**  
**39,69,108,191 kN**



**Hard Pull-up Spring for Safety**

- Powerful die holding force even at no air pressure
- Most suitable for upper die of press machine

**Limit Switch Activation**

- Clamp and unclamp can be detected by clamp rod's position.

**Eccentric Clamp Mechanism**

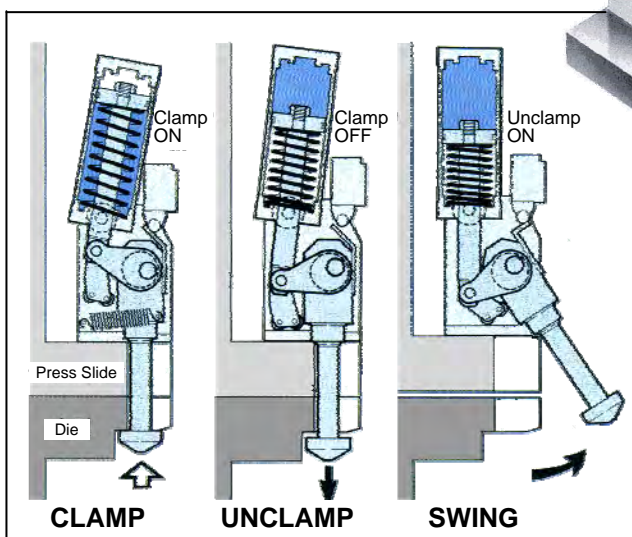
- Efficient and durable
- Prepared for shock and vibration
- No lubrication required

**Clamp Rod With High Durability**

- Thorough heat and surface treatment on chrome-molybdenum steel

**Position Indicator of Clamp Rod**

- Visual confirmation of clamp / unclamp / swing positions.



**FEATURES**

- ① Compact size came out from simplified eccentric clamp mechanism, bearing high power along with durability and impact-resistance.
- ② At clamping, air cylinder output is enlarged by eccentric clamp mechanism, and it gives a large pull-up force and holding force to clamp rod. The model TNA□-H is equipped with hard pull-up spring inside air cylinder. Thus the die holding force is kept even when air supply is cut off. Even when press machine is not in use, die is securely clamped.
- ③ Position indicator at the body side clearly presents clamp / unclamp / swing conditions.
- ④ Limit switch for clamp / unclamp detection is standard-equipped for secure interlock mechanism.
- ⑤ All the structures are maintenance free.



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MODEL **TNA**

## Model and Specifications

TNA4 - ① ② R - ③ - ④

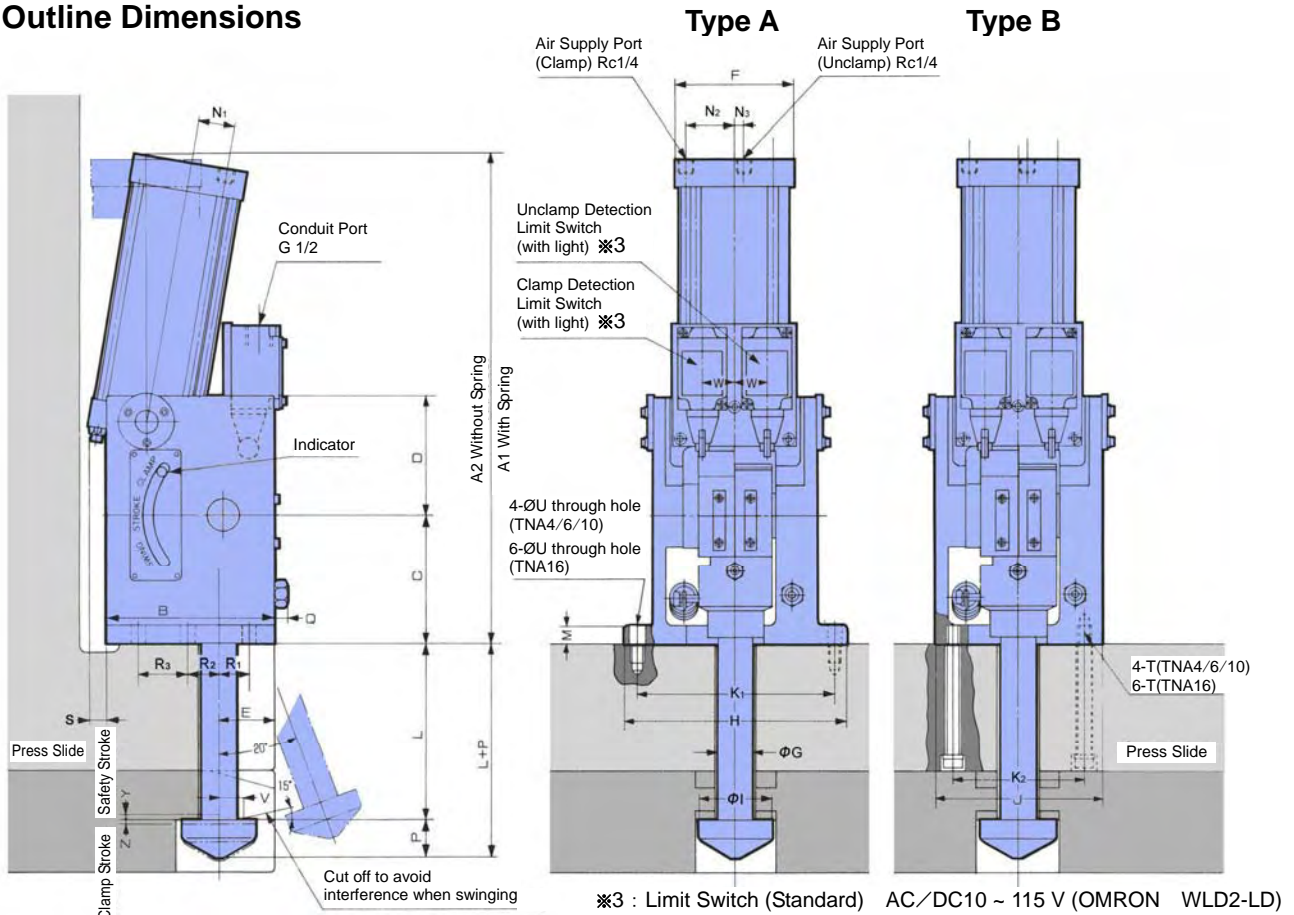
- ① Pull-up Spring ----- N]without spring H]with spring
- ② Mounting Type ----- A] B] (see drawing below)
- ③ Swing Angle ----- 20° (other angle available on request)
- ④ Clamp Rod Length ----- L mm

MODEL	Pull-Up Force ※1 kN		Holding Force ※1 kN		Clamp Rod Break Force kN	Clamp Stroke mm	Safety Stroke mm	Swing Angle (standard) ※2	Air Pressure MPa		Ambient Temperature °C
	Air Pressure 0.5 MPa	Air Pressure 0 MPa	Air Pressure 0.5 MPa	Air Pressure 0 MPa					Rated	Max	
TNA4-N	14.7	---	28.4	---	58.8	3.0	0.5	20°	0.49	0.68	0~70
TNA4-H	19.6	---	39.2	10.7							
TNA6-N	21.5	---	49.0	---	98.0	3.0	1.0				
TNA6-H	30.4	---	68.6	19.6							
TNA10-N	34.3	---	78.4	---	147.0	3.5	1.0				
TNA10-H	49.0	---	107.8	29.4							
TNA16-N	58.8	---	142.2	---	235.3	4.0	1.0				
TNA16-H	83.3	---	191.2	49.0							

※1 : Pull-Up force and holding force vary with the tolerance of ±10% from the figure.

※2 : Swing angle is set as designated at factory before delivered.

## Outline Dimensions



MODEL	A1-H	A2-N	B	C	D	E	F	G	H	I	J	K1	K2	M	N1	N2	N3	P	Q	R1	R2	R3	S	T	U	V	W	Y	Z
TNA 4	353	290	110	90	82	34	80	22	150	50	100	130	80	17	25	30.5	0	25	18	20	20	-	16	M10	11	20	21.1	0.5	3.0
TNA 6	397	354	135	105	95	45	96	28	180	60	145	160	105	16	29	39.0	7	30	18	25	40	-	13	M10	11	20	26.0	1.0	3.0
TNA 10	465	412	158	135	120	43	118	34	225	75	178	200	110	20	31	47.0	8	40	19	20	50	-	13	M12	14	30	27.5	1.0	3.5
TNA 16	565	490	190	160	135	60	140	42	260	88	215	235	120	25	40	61.0	25	50	25	30	20	50	22	M12	14	35	27.1	1.0	4.0

Specifications are subject to change without prior notice.

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