

DYNAMOMETER



For accurate measurement of tension forces. The PIAB Dynamometer is an extremely robust and reliable instrument. The PIAB Dynamometer conforms to Protection Class IP67 acc. to IEC529.

PIAB



PIAB Dynamometer with Readout Instrument type 6:64 with two contact functions.



PIAB Dynamometer with built-on Switch Head.



RANGE OF APPLICATION

The PIAB Dynamometer is an all-weather instrument, equally suitable for use in the Laboratory as out in the

field for weighing and measuring mechanical forces.

FUNCTION

The pull rod movement operates the scale drum through a square thread stem.

The power-absorbing element consists of specially made Belleville type spring

washers, so designed as to be entirely free from wear.

The spring washers cannot be overloaded.

SAFETY

Safety factor 5:1 (Guaranteed to withstand a load of 5 times full scale reading before rupture.) The resistance to rupture is tested by the National Swedish Institute for Materials Testing. The dynamometer may be overloaded by 100% without impairing the accuracy.

The dynamometers, types M-G, have drop-forged steel eye brackets (SIS 2174, St 52-3N acc. to DIN 17100, 50 D acc. to BS 4360); giving a guaranteed impact resistance to -20°C.

The O-ring of the pull rod is protected by a neoprene rubber membrane.

On instantaneous unloading, e.g. breaking test, the return movement of the pull rod is retarded by a specially made spring washer. The PIAB Dynamometer is approved by the National Board of Occupational Safety and Health for integral connection in the carrying system of a lifting device and for weighing of test loads in connection with inspection.

DYNAMOMETER FOR REMOTE READING

The PIAB Dynamometer used for remote reading is supplied with a built-in precision potentiometer. The potentiometer is directly connected to the scale mechanism of the PIAB instrument. The electrical resistance of the potentiometer varies in proportion to the load on the dynamometer.

The resistance is indicated on a receiving instrument, calibrated individually and marked with the same serial number as the dynamometer. The electrical connections are made on a connection block in a surface mounted connection box.

CONTACT FUNCTION

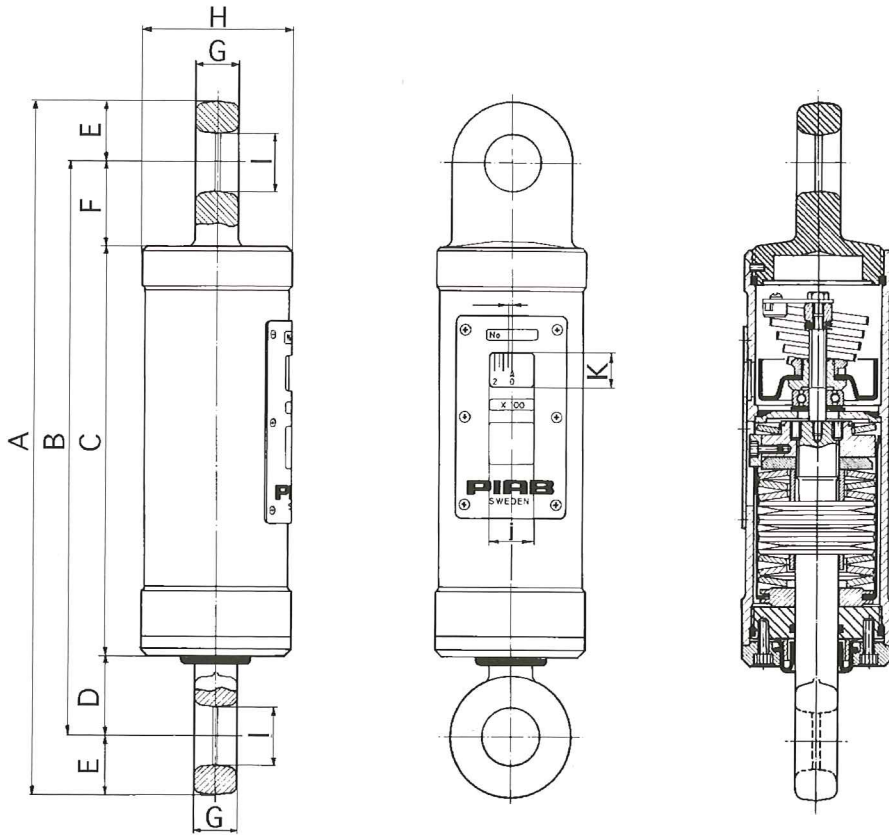
The PIAB Dynamometer can be equipped with a built-on adjustable Switch Head. Using a microswitch, which is directly influenced by the pull rod, the dynamometer gives an electrical

contact function at a preset value. For further technical specifications please refer to PIAB Info 9116-1 PIAB Switch Head Dynamometer.

PROTECTION AGAINST CORROSION

The PIAB Dynamometer is fully pressure tight and each instrument is pressure tested. The external surfaces are zinc plated with clear chromate passivation.

If the dynamometer is to be used in a very corrosive atmosphere, it can be polyester lacquered.



TECHNICAL DATA

INACCURACY
± 0,6% of the max. capacity.

WORKING TEMPERATURE
Max. +60°C.

TAREING
The dynamometer can be tared to approx. 10% of the full scale. To obtain best accuracy the dynamometer should be supplied calibrated for a known tare.

SCALE
White lacquered with black graduation. The dynamometer can be graduated in kg, kp, N, lb., cwt. etc.

PROTECTION CLASS
IP 67, IEC 529
NEMA 4X

ART.NO.	TYPE	CAPACITY	GRADUATION		DEAD WEIGHT	MEASUREMENTS IN MM									
			1	MM		A	B	C	D	E	F	G	H	I	J x K
300015	K *	0- 250 kg	5 kg	2,2	1,9 kg	266	230	165	42	18	23	20	50	17	24x20
300020	A *	0- 500 kg	10 kg	2											
300025	B *	0- 1000 kg	20 kg												
** 300230	B x 1,5	0- 1500 kg	50 kg	3,6	2,3 kg	292	256	191	42	18	23	20	50	17	
300030	M	0- 2000 kg	25 kg	2,3	7,8 kg	395	327	234	45	34	48	25	86	33	26x20
300035	O	0- 3000 kg	50 kg	2,5											
300040	Q	0- 5000 kg	50 kg	2,5	15 kg	413	329	230	45	42	55	30	122	40	
300045	S	0- 10000 kg	100 kg	3,5	26,5 kg	495	385	260	60	55	65	45	149	56	
300050	U	0- 20000 kg	200 kg	4,2	78 kg	675	505	300	102	85	103	70	228	81	65x23
300055	G	0- 25000 kg	200 kg												
300060	E	0- 50000 kg	250 kg	2,7	115 kg	831	631	387	123	100	121	95	234	115	

The pull rod movement at full load is approximately 10 mm.
*On the types K-B with built-in potentiometer the length increases by 56 mm.
We reserve the right to change the specifications without notice.

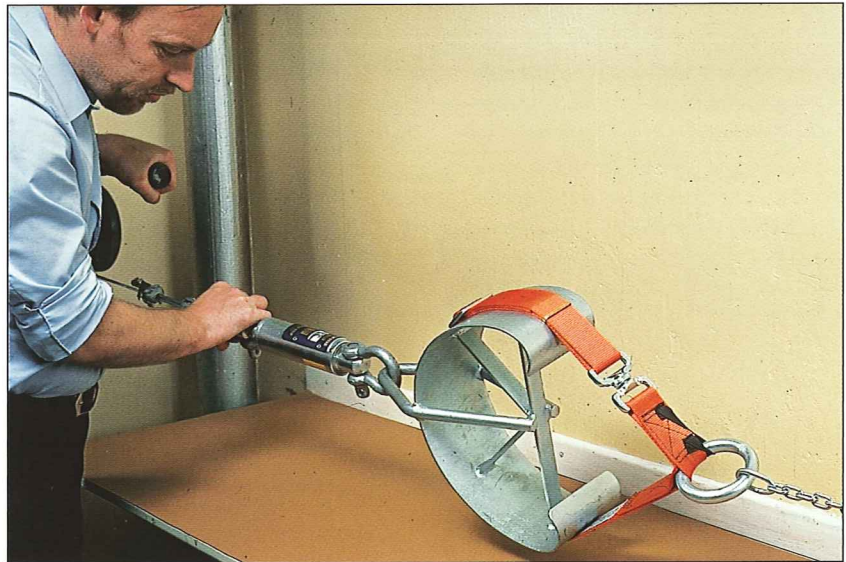
** Safety factor 4:1

APPLICATIONS FOR THE PIAB DYNAMOMETER

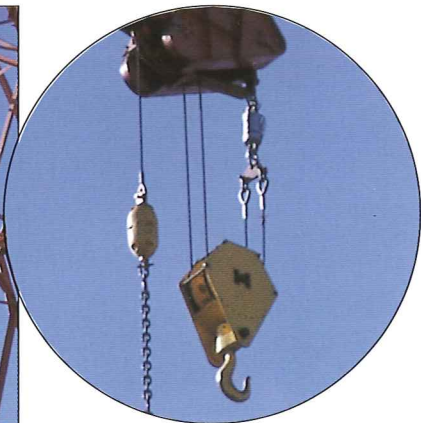
In line construction it is important to control the installed tension of conductors according to type and conditions. For field work light and robust equipment is especially important. The PIAB Dynamometers are used for this duty all over the world.



Obligatory Standards of Control for Occupational Safety and Health require that safety ropes and belts are regularly and properly checked.



This luffing crane is protected against overload by a PIAB Dynamometer in the hook line anchorage, giving the crane operator the actual load on the hook together with overload warnings and power shunt.



GIGASENSE
Force Measurement

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