

## Lifting Jacks

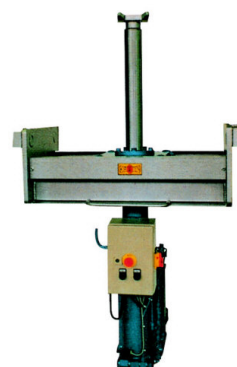
Workshop Presses

Vehicle Lifts

Mobile Cranes



**Made in Germany**



## Pit Jacks Portal Lifts Jack Beams

**Georg Kirsten**  
GmbH & Co. KG

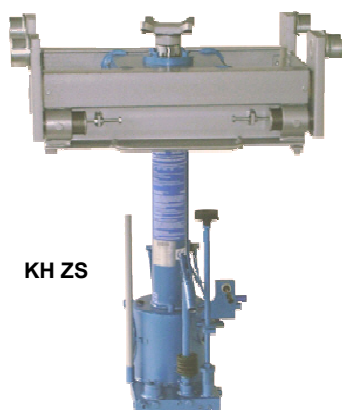
Gartenfeldstraße 17  
D-54427 Kell am See  
Germany

Tel.: +49 6589 9178 0  
Fax: +49 6589 9178 20

[www.kirsten.eu](http://www.kirsten.eu)



KH



KH ZS



KH MZS

All illustrations are without obligation.  
Constructions are subject to modification.

## Type code

|                      |              |                                   |
|----------------------|--------------|-----------------------------------|
| Code letter          | <b>KH</b>    | <b>KIRSTEN Hydraulic pit jack</b> |
|                      | <b>15</b>    | carrying capacity in metric tons  |
|                      | <b>L</b>     | long stroke 800 mm                |
|                      | <b>M</b>     | motor pump (air motor)            |
|                      | <b>Z</b>     | quick-action operation DOWN       |
|                      | <b>S</b>     | quick-action operation UP         |
|                      | <b>M 800</b> | is equivalent to <b>LMZS</b>      |
|                      | <b>HP</b>    | hand pump                         |
| Telescoping pit jack | <b>T</b>     | telescoping pit jack              |
|                      | <b>15</b>    | carrying capacity in metric tons  |
|                      | <b>/2</b>    | 2 telescopes                      |
|                      | <b>E</b>     | electro-hydraulic                 |

## Standard equipment

- hard-chrome plated piston rods as armouring and corrosion protection
- bellows as protection against contamination at load pump and fast-stroking hand pump
- non-return valve for safeguarding of the load in every possible stroke position
- pressure limitation valve for overload protection
- guide bush made from highly resistant material
- clipped-on steel carrying plate as load handling device, type KHT comes with basic gear plate GP
- elevated hand valve at lowering valve with spring reset in position 0
- type KH L comes with elevated hand pump
- carriage:
  - from 4.000 kg at KHT and
  - from 6.000 kg at KH with needle bearings in track rollers
  - from 15.000 kg with grease nipples at track rollers
  - up to 11.000 kg adjustable by 100 mm
- bicolour, robust painting with special-effect lacquer
  - blue for the jack
  - gray for the carriage
- detailed manual with spare-part list and test book for annual technical inspection

## Advisable accessories

- chrome plating of cylinder inner surface as armouring and corrosion protection
- chrome plating of telescope for telescope jacks
- needle bearing on track rollers
- grease nipples on track rollers
- grease nipples on carriage rollers up to 11.000 kg
- attached maintenance unit (pressure controller, filter, water separator, manometer) for jacks with pneumatic drive

In terms of drive the pit jacks differ in the following features:

### Type KH and KHT

Hand pump for load stroke and fine stroke. In addition at carrying capacities of up to 6.000 kg and up to 4.000 kg for telescope lifts a fast-stroking hand pump is attached. Lowering by opening of the lower valve by means of the hand wheel. Retracting of the unloaded piston rod will be carried out simply by the dead load.

### Type KH (L) ZS and KHT ZS

Pneumatic fast stroke up to the loading point as well as compulsorily retracting of the unloaded piston rod. Type KH ZS as version KH L ZS is also available as long stroke with 800 mm stroke. The telescope lift KHT 4/2 ZS retracts the first level, at telescope lifts with lifting capacities from 11.000 kg on the telescope levels 1 and 2 will be retracted. The load is lifted by means of a hand pump. Retracting will be carried out by opening of the lowering valve using a handwheel.

### Type KH M 800 and KH M 800 HP

New slim construction without / with hand pump. Pneumatic quick-stroke up to the loading point. The load up to the maximum capacity is lifted by a pneumatically driven motor pump (air motor) respectively by a hand pump. Separate push buttons to operate fast stroke and load stroke. Lowering by opening of the lower valve by means of the hand wheel. Retracting of the unloaded piston rod will be carried out by compulsory pneumatic return.

### Type KH (L) MZS and KHT MZS

These product types are in terms of function and performance similar to the product types KH und KH ZS. These lifts have all characteristics to ensure a quick lifting of the load without physical effort. The pneumatic fast stroke as well as the compulsory pneumatic return lead to a quick lifting respectively lowering without load. The attached motor pump (air motor) lifts the load up to the specified carrying capacity of the jack. The jack is controlled by an easily to use hand lever valve with safety catch. Type KH MZS as version KH L MZS is also available as long-stroke with 800 mm stroke.

### Type KH LE

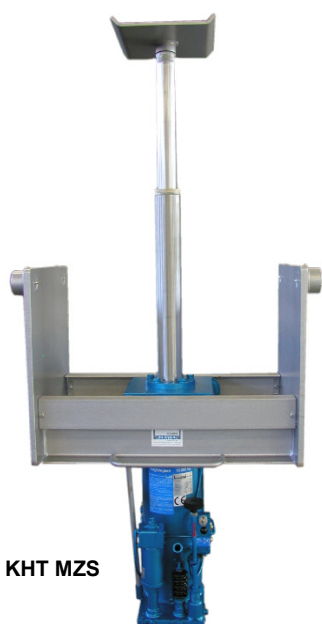
Electric drive consisting of under oil motor, hydraulic pump and control slide. The jack is controlled by a push button UP/DOWN in the electronic switch box. Whilst sinking the piston rod is pushed back hydraulically. A pressure control valve and a motor overload switch serve as overload protection. A magnetic valve set attached to the cylinder bottom will safeguard the lifted load. A 10 meter long power cord with 16A CEE plug is included in delivery.

Connected load: 2,2 kW 400V 50 Hz 3P N+ PE for jacks up to 6 t  
Connected load 3,0 kW 400V 50 Hz 3P N+ PE for jacks up to 22 t  
Connected load 4,0 kW 400V 50 Hz 3P N+ PE for jacks up to 30 t

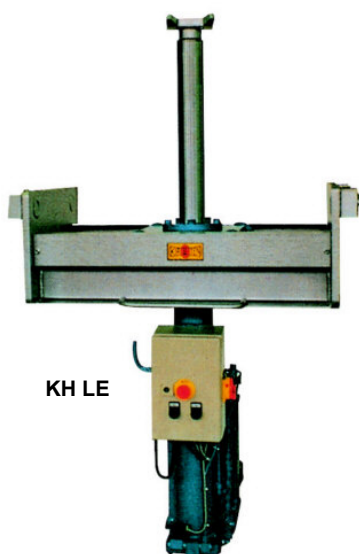
**The advantage** of an electric-hydraulic pit jack is the up to **seven times higher** stroke speed compared to a pit jack powered by compressed air.



KH M 800



KHT MZS



KH LE

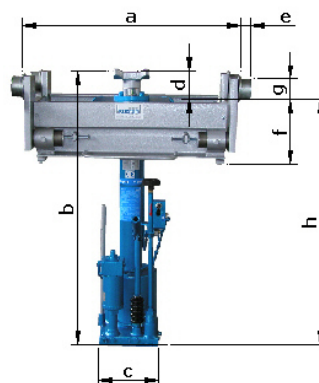
## Technical data KH

### Deliverable at additional price

- Pit width **a** more than 1.000 mm
- Modification of measure **d** oder **e**

Measures and weights without obligation.  
Subject to technical changes.

All measures are stated in mm.



| type                                           | carrying capacity kg | stroke mm | weight kg | a          | b     | c   | d   | e  | f   | g   | h     |
|------------------------------------------------|----------------------|-----------|-----------|------------|-------|-----|-----|----|-----|-----|-------|
| KH 2<br>KH 2 M                                 | 2.000                | 600       | 110       | individual | 810   | 160 | 20  | 45 | 240 | 45  | 790   |
| KH 4<br>KH 4 M                                 | 4.000                | 600       | 120       | individual | 810   | 160 | 30  | 45 | 240 | 60  | 780   |
| KH 6<br>KH 6 ZS<br>KH 6 MZS                    | 6.000                | 600       | 170       | individual | 870   | 240 | 70  | 45 | 260 | 60  | 800   |
| KH 6 L<br>KH 6 LZS<br>KH 6 LMZS<br>KH 6 LE     | 6.000                | 800       | 190       | individual | 1 070 | 240 | 70  | 45 | 260 | 60  | 1.000 |
| KH 11<br>KH 11 ZS<br>KH 11 MZS                 | 11.000               | 600       | 190       | individual | 870   | 240 | 90  | 40 | 260 | 75  | 780   |
| KH 11 L<br>KH 11 LZS<br>KH 11 LMZS<br>KH 11 LE | 11.000               | 800       | 210       | individual | 1.070 | 240 | 90  | 40 | 260 | 75  | 980   |
| KH 15<br>KH 15 ZS<br>KH 15 MZS                 | 15.000               | 600       | 230       | individual | 870   | 240 | 80  | 45 | 240 | 75  | 790   |
| KH 15 L<br>KH 15 LZS<br>KH 15 LMZS<br>KH 15 LE | 15.000               | 800       | 250       | individual | 1.070 | 240 | 80  | 45 | 240 | 75  | 990   |
| KH 18<br>KH 18 ZS<br>KH 18 MZS                 | 18.000               | 600       | 230       | individual | 870   | 240 | 80  | 45 | 240 | 75  | 790   |
| KH 18 L<br>KH 18 LZS<br>KH 18 LMZS<br>KH 18 LE | 18.000               | 800       | 250       | individual | 1.070 | 240 | 80  | 45 | 240 | 75  | 990   |
| KH 22<br>KH 22 ZS<br>KH 22 MZS                 | 22.000               | 600       | 270       | individual | 870   | 280 | 90  | 45 | 260 | 85  | 780   |
| KH 22 L<br>KH 22 LZS<br>KH 22 LMZS<br>KH 22 LE | 22.000               | 800       | 290       | individual | 1.070 | 280 | 90  | 45 | 260 | 85  | 980   |
| KH 30 ZS<br>KH 30 MZS                          | 30.000               | 600       | 310       | individual | 920   | 280 | 100 | 60 | 290 | 100 | 820   |
| KH 30 LZS<br>KH 30 LMZS<br>KH 30 LE            | 30.000               | 800       | 330       | individual | 1.120 | 280 | 100 | 60 | 290 | 100 | 1.020 |

## Technical data KH 11-18 M 800 (HP)

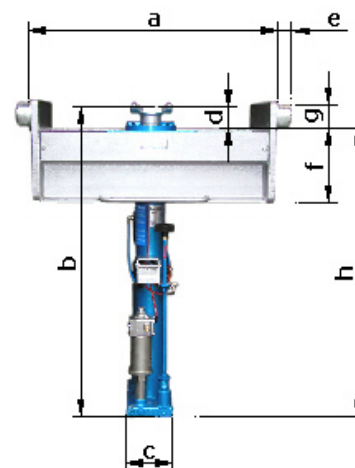
- New slim construction, long stroke 800 mm
- With air motor, without hand pump / with hand pump (HP)
- With separate push buttons for quick-stroke and load stroke
- Pneumatic compulsorily retracting device

### Deliverable at additional price

- Pit width **a** more than 1.000 mm
- Modification of measure **d** or **e**

Measures and weights without obligation.  
Subject to technical changes.

All measures are stated in mm.



| type             | carrying capacity kg | stroke mm | weight kg | a          | b     | c   | d  | e  | f   | g  | h     |
|------------------|----------------------|-----------|-----------|------------|-------|-----|----|----|-----|----|-------|
| KH 11 M 800 (HP) | 11.000               | 800       | 215       | individual | 1.070 | 160 | 60 | 40 | 260 | 75 | 1.010 |
| KH 15 M 800 (HP) | 15.000               | 800       | 220       | individual | 1.070 | 160 | 60 | 45 | 240 | 75 | 1.010 |
| KH 18 M 800 (HP) | 18.000               | 800       | 225       | individual | 1.070 | 160 | 80 | 45 | 240 | 75 | 990   |



GH L 3 Z

## Pneumatic pit jack GH L Z

Pneumatic pit jacks are powered by means of compressed air which has a direct effect on the piston. The jack is operated UP/DOWN by a hand lever valve with safety catch in position 0.

Retracting of the piston rod will be carried out by compulsory pneumatic return. Due to this compulsory return a sensitive and smooth lifting respectively retracting is possible. In terms of handling and mode of operation this jack is the optimal solution for a quick aftersales service as well as car test stations.

| type       | carrying capacity kg | stroke mm | construction height mm | weight kg | pneumatic pressure bar |
|------------|----------------------|-----------|------------------------|-----------|------------------------|
| GH L 1,5 Z | 1.500                | 410       | 600                    | 80        | 10                     |
| GH L 3 Z   | 3.000                | 435       | 640                    | 120       | 10                     |
| GH L 6 Z   | 6.000                | 470       | 855                    | 195       | 10                     |

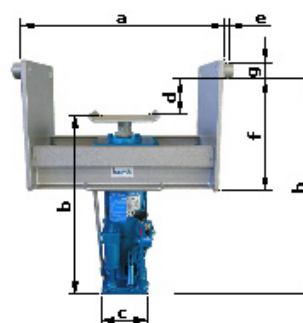
## Telescopic pit jack KHT

### Deliverable at additional price

- Pit width **a** more than 1.000 mm
- Modification of measure **d** or **e**

Measures and weights without obligation.  
Subject to technical changes.

All measures are stated in mm.



| type                                       | telescope 1<br>capacity kg<br>stroke mm | telescope 2<br>capacity kg<br>total stroke mm | telescope 3<br>capacity kg<br>total stroke mm | weight<br>kg | a          | b   | c   | d   | e  | f   | g  | h     |
|--------------------------------------------|-----------------------------------------|-----------------------------------------------|-----------------------------------------------|--------------|------------|-----|-----|-----|----|-----|----|-------|
| KHT 4/2<br>KHT 4/2 ZS<br>KHT 4/2 MZS       | 4.000<br>600                            | 2.000<br>1.180                                | -                                             | 190          | individual | 840 | 240 | 190 | 45 | 460 | 60 | 1.030 |
| KHT 11/3 ZS<br>KHT 11/3<br>MZS             | 11.000<br>600                           | 6.200<br>1.200                                | 2.800<br>1.770                                | 310          | individual | 880 | 240 | 180 | 40 | 510 | 75 | 1.060 |
| KHT 15/2<br>KHT 15/2 ZS<br>KHT 15/2<br>MZS | 15.000<br>600                           | 8.400<br>1.200                                | -                                             | 290          | individual | 890 | 240 | 180 | 45 | 520 | 75 | 1.070 |
| KHT 22/2 ZS<br>KHT 22/2<br>MZS             | 22.000<br>600                           | 13.000<br>1.200                               | -                                             | 370          | individual | 870 | 280 | 160 | 45 | 500 | 85 | 1.030 |
| KHT 22/2 E                                 | 22.000<br>600                           | 13.000<br>1.200                               | -                                             | 420          | individual | 870 | 280 | 160 | 45 | 500 | 85 | 1.030 |
| KHT 22 x 2<br>MZS                          | 22.000<br>600                           | 22.000<br>1.200                               | -                                             | 450          | individual | 870 | 280 | 160 | 45 | 500 | 85 | 1.030 |

## Retrofitting sets for pit jacks

| type | modification respectively upgrade  |
|------|------------------------------------|
| NRV  | Upgrade to <b>ZS</b>               |
| NRM  | Upgrade of <b>ZS</b> to <b>MZS</b> |
| NRMV | Upgrade to <b>MZS</b>              |
| NRZ  | Upgrade of <b>MS</b> to <b>MZS</b> |

### Note:

- type NRM can be self-mounted according to instruction manual
- for all other retrofittings we advice you to send the pit jack to our plant or use our after-sale service

## Portal lift KPH

The portal lift used as pit jack is a reasonable combination of lift cylinder, axle traverse and supporting bridge. The pass in the pit under the jack is allways free. The load pick up on two points is guaranteed by the axle traverse. The additional protection of the lifted load required by the norm EN 1494 is carried out manually by locking pins as with a supporting bridge. The KPH (L)MZS is powered by compressed air and air motor, the KPH (L)E by electric motor and pump.

**The best and most ergonomic solution for a free pass in the pit.**



**KPH E**  
powered by electric motor  
and pump

Pass is the inside width of the pit  
minus 400 mm



**KPH MZS**  
Powered by compressed  
air and air motor

Pass is the inside width of the pit  
minus 400 mm

| technical data                             | KPH 15 MZS | KPH 15 LMZS | KPH 18 MZS | KPH 18 LMZS | KPH 15 E   | KPH 15 LE  | KPH 18 E   | KPH 18 LE  |
|--------------------------------------------|------------|-------------|------------|-------------|------------|------------|------------|------------|
| carrying capacity (kg)                     | 15.000     | 15.000      | 18.000     | 18.000      | 15.000     | 15.000     | 18.000     | 18.000     |
| stroke (mm)                                | 600        | 800         | 600        | 800         | 600        | 800        | 600        | 800        |
| stroke speed without load (cm/s)           | ca. 1,00   | ca. 1,00    | ca. 1,00   | ca. 1,00    | 1,50       | 1,50       | 1,50       | 1,50       |
| stroke speed with load (cm/s)              | 0,08-0,30  | 0,08-0,30   | 0,08-0,30  | 0,08-0,30   | 1,50       | 1,50       | 1,50       | 1,50       |
| retracting with compulsorily return (cm/s) | 0,62       | 0,62        | 0,62       | 0,62        | 2,00       | 2,00       | 2,00       | 2,00       |
| hydraulic operating pressure (bar)         | 220        | 220         | 260        | 260         | 220        | 220        | 260        | 260        |
| pneumatic operating pressure (bar)         | 10         | 10          | 10         | 10          | -          | -          | -          | -          |
| electric connection                        | -          | -           | -          | -           | 3 kW 400 V | 3 kW 400 V | 3 kW 400 V | 3 kW 400 V |
| weight (kg)                                | 440        | 520         | 450        | 530         | 450        | 530        | 460        | 540        |

The portal lift is also available in a floor-running version (-U/-F) or with an adaptor for **MB Citaro etc.** (effective supporting width 1.500 mm).

## Jack beam



- Type KSH:** load stroke with hand pump
- Type KSH M:**
- load stroke with pneumatic motor pump
  - pneumatic operation pressure 10 - 12 bar

Hydraulic scissor-type jack with mechanical security fixing of the lifting beam. Spring loaded supported track roller for operation in longitudinal direction. Under load the side ward supporting frames are put down on the roller rail. Retracting is only possible when the lowering valve is pressed and at the same time the security catch is opened.

| type                 | carrying capacity kg | stroke mm | adjusting range supporting frame mm | adjusting range telescopic slide mm | construction height retracted mm |
|----------------------|----------------------|-----------|-------------------------------------|-------------------------------------|----------------------------------|
| KSH 2<br>KSH 2 M     | 2.000                | 250       | 820 – 1.160                         | 780 – 1.600                         | 180                              |
| KSH 2,6<br>KSH 2,6 M | 2.600                | 250       | 820 – 1.160                         | 780 – 1.500                         | 180                              |
| KSH 4 M              | 4.000                | 250       | 820 – 1.200                         | 720 – 1.400                         | 230                              |
| KSH 10               | 10.000               | 250       | 980 – 1.200                         | 350 – 1.200                         | 300                              |
| KSH 15               | 15.000               | 250       | 980 – 1.200                         | 350 – 1.200                         | 300                              |

In addition the following jack beams are available with more stroke and a slimmer construction:

| type                          | carrying capacity stroke 1 kg | carrying capacity stroke 2 kg | stroke 1 mm | stroke 2 mm | total stroke mm | stroke extension mm | construction height mm |
|-------------------------------|-------------------------------|-------------------------------|-------------|-------------|-----------------|---------------------|------------------------|
| KHT 10/3 KMS *                | 10.000                        | 10.000                        | -           | -           | 510             | 150                 | 470                    |
| KHT 11/2 K<br>KHT 11/2 KMZS * | 11.000                        | 6.200                         | 230         | 244         | 474             | 150                 | 555                    |
| KH 13 KMZS *                  | 13.000                        | -                             | 230         | -           | 230             | 150                 | 500                    |
| HT 1,5                        | 1.500                         | -                             | -           | -           | 293             | 100                 | 285                    |
| HT 4<br>HT 4 M *              | 4.000                         | -                             | -           | -           | 360             | 100                 | 335                    |
| HT 6<br>HT 6 M *              | 6.000                         | -                             | -           | -           | 360             | 100                 | 335                    |
| HT 6-500                      | 6.000                         | -                             | -           | -           | 500             | 100                 | 410                    |
| HTL 13/8 *                    | 13.000                        | 8.000                         | 240         | 215         | 455             | 150                 | 400                    |
| LT 1,5 Z                      | 1.500 **                      | -                             | 290         | -           | 290             | -                   | 300                    |
| LT 1,5 N                      | 1.500 ****                    | -                             | 303         | -           | 303             | -                   | 300                    |
| LTK 1,5                       | 1.100 **<br>1.600 ***         | -                             | 290         | -           | 290             | 100                 | 290                    |

When ordering jack beams for a vehicle lift it is mandatory to state type and year of construction of your vehicle lift!  
Please attach a dimensional sketch of the vehicle lift or the pit.

\* Pneumatic pressure: 10 bar  
\*\* at 10 bar

\*\*\* at 15 bar  
\*\*\*\* at 8 bar