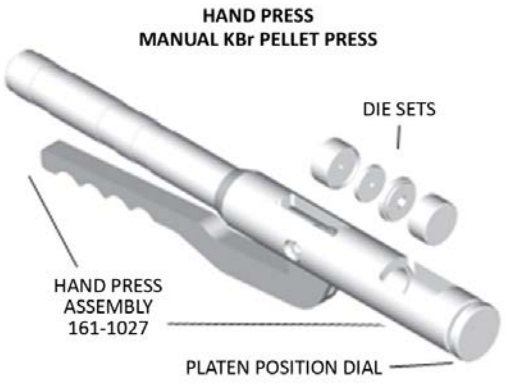
Hand Press - Manual KBr Pellet Press
Part Number 161-1100, 161-1027 and 161-1000

INSTRUCTIONS

The Hand Press is an ideal tool for laboratories that require only occasional preparation of KBr pellets and cannot justify the expense of a hydraulic press. The press is an efficient, reliable and inexpensive accessory which simplifies making of the pellets.

The press consists of a long stainless steel barrel and movable stage controlled by a lever capable of applying high pressure to the KBr/sample powder mixture. The pellet preparation involves loading of the powdered sample into the die chamber, placement of the die set in the press and application of hand pressure to the lever which is sufficient to provide clear, high quality KBr disks.

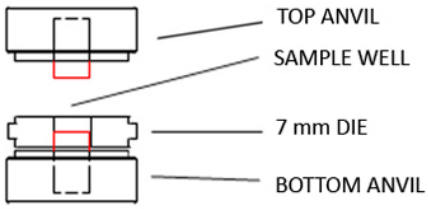
The collar with the formed pellet is removed from the press and in most cases it can be placed directly in the beam of the spectrometer for analysis. The Press is equipped with a platen position dial for adjustment of the force applied to the die and reproducible sample preparation.



PREPARATION OF THE KBr PELLETS

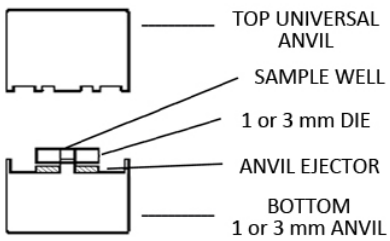
7 mm Die Assembly

1. Place one 7-mm bottom anvil flat on the table.
2. Slide the 7-mm die over the anvil column.
3. Fill the well formed by the die and the anvil bottom with the KBr/sample mix all the way to the top. Remove excess powder with the straight edge.
4. Position the second anvil on top of the assembly and push gently.
5. Place the die set in the barrel of the Hand Press and adjust the Platen Position Dial until the end of the handle is approximately 2 inches away from the press body (the scale on the top of the dial can be used as a reference for different size dies and sample types).
6. Squeeze the handle gently all the way down and pause for 15 seconds.
7. Release the pressure and remove the die set from the press.
8. Disassemble the die. The pellet will be formed in the center of the die. Use the Die Holder (161-1018) for mounting the sample in the spectrometer.



1 mm and 3 mm Die Assemblies

1. Place the 1 mm (3 mm) anvil flat on the table.
2. Slide the pellet ejector (rubber gasket) over the anvil shaft.
3. Place the 1 mm (3 mm) pellet die on the pellet ejector and position it so the bottom anvil enters the die's opening.
4. Fill the well formed by the die and the bottom anvil with the KBr/sample mix all the way to the top. Remove excess powder with the straight edge.



5. Lift the die set carefully and position it in the barrel of the Hand Press (please note, the top anvil may slide as it is not mechanically engaged with the bottom part of the assembly).

6. Adjust the Platen Position Dial until the end of the handle is approximately 2 inches away from the press body (the scale on top of the dial can be used as a reference for different size dies and sample types).
7. Squeeze the handle gently all the way and pause for 15 seconds.
8. Release the pressure and remove the die set from the press.
9. Disassemble the die. The pellet will be formed in the center of the die. Use any 13 mm pellet holder (the external diameter of the die holding pellet is 13 mm) for mounting in the spectrometer.

The above procedures produce approximately 1-mm thick KBr pellets. Occasionally, the die/pellet assembly may be difficult to be taken apart, as small particles of KBr get pushed between the walls. If this happens, use rotational motion to free the components. In extreme cases, the assembly may have to be soaked in distilled water to dissolve trapped material.

PACKING LIST

Complete Hand Press, Part No. 161-1100

Part No.	*Description*	*Qty*
161-1027	Hand Press Assembly	1
161-1028	1 mm Die Set	1
161-1024	3 mm Die Set	1
161-1010	7 mm Die Set	1
161-5700	Dual Pellet Holder	1

Hand Press, Body Only

161-1027	Hand Press Assembly	1

Hand Press with Die Sets, Part No. 161-1000

161-1027	Hand Press Assembly	1
161-1028	1 mm Die Set	1
161-1024	3 mm Die Set	1
161-1010	7 mm Die Set	1

OPTIONAL COMPONENTS AND SAMPLE PREPARATION TOOLS FOR KBr HAND PRESS

Part No.	*Description*
161-1017	1 mm Die Collar
161-1016	3 mm Die Collar
161-1011	7 mm Die Collar
161-1012	1 mm Anvil
161-1013	3 mm Anvil
161-1021	7 mm Anvil
161-1070	ShakIR, Heavy Duty Sample Grinder
161-1015	Universal Anvil Ejector
161-1009	Universal Bottom Anvil
161-5050	Agate Mortar and Pestle, 50 mm
160-8010	KBr Powder, 100 g
161-1018	7 mm Die Holder

Please refer to our catalog for full selection of IR materials and sample preparation tools.

SAMPLE PREPARATION TIPS: Use a mortar and pestle or a PIKE ShakIR Sample Grinder to achieve best results. Grind using a mortar and pestle using a circular motion until the sample and KBr are fully homogenous. With the ShakIR you can produce an excellent fine powdered mixture in about 10 seconds time.

It is recommended that KBr powder be dried overnight at 110 °C once a week, and stored in a desiccator.

NOTE: This press set is designed to be used with a minimum of effort. Forcing the handle could cause damage to the press and will not improve pellets.