

# BROWN TYPE "A" ZONE SELECTOR

This versatile and economical tool provides the means of performing a number of necessary operations in dually-completed as well as single zone wells, either while flowing or pumping. With this Selector installed in the tubing string above the packer, you have the versatility and desired features of conventional ported nipples and pack-off assemblies. But since only a simple manipulation by the well operator at the surface is required for its operation, the usual extra expense of calling in an outside crew with special equipment is not necessary when flow courses are to be changed. Neither is it necessary to kill the well, pull tubing or disturb the packer setting.

## OPERATION

To operate this tool, only rotation of the tubing to the right or left is required. Thrust bearing in the top of the tool makes for ease in rotation, and W-packing seal in the bottom prevents communication between the zones above and below the packer. This rotation causes a transverse action in the actuating threads as shown in drawing. Rotating to the left moves the ports in the mandrel upward and opposite the outside ports in the nipple, thus opening the upper zone into the tubing and closing off the lower zone. Rotation to the right moves the mandrel down, packing off the side ports in the nipple and lowering the ported section of the mandrel below the packing seal, which isolates and directs the lower zone up the tubing and the upper zone through the casing in the conventional manner.

## APPLICATIONS

(1) In completing a dual-zone well, the Zone Selector is made up in the tubing string above the packer and run in while the well is still loaded. Packer can be set and surface connections, including a Brown Rotating Tubing Head, permanently installed. Then, each zone may be brought in separately by washing or swabbing. With the nipple side ports open, the upper zone is brought in through the tubing. Then, by rotating to the right, the lower zone is opened and brought in up the tubing, while the upper zone is confined to the tubing-casing annulus. In this manner, the two zones are never allowed to co-mingle and are kept separated at all times.

(2) Bottom hole pressure and temperature survey may be taken of each zone independently through the tubing, as well as flow potentials.

(3) Acidizing and formation fracturing can be accomplished, treating the upper zone separately without disturbing the lower.

(4) When both zones are to be pumped intermittently with a single pump, the Zone Selector provides a dependable means of pumping either zone through the tubing while blanking off the other, and to change over when desired by merely rotating the tubing at the surface.

(5) In the event that the casing "loads up", the Zone Selector can be used to unload the annulus through the smaller diameter tubing. If the casing paraffins up, the Zone Selector provides a means of circulating hot oil or other solvents to wash out the paraffin.

(6) In a single completion well where the Zone Selector is run with packer, mud can be left on top the packer and the well brought in through the tubing. This also permits conditioning of the mud above the packer, or killing the well by circulation.

## ADVANTAGES

- (1) Many desired operations are made easier, faster and more economical with the Zone Selector — without killing the well, pulling tubing or disturbing the packer setting.
- (2) At no time are the producing zones allowed to co-mingle after packer is set.
- (3) Outside service crews with special equipment are not required.

## ENGINEERING DATA

NOTE: Drawing shows Zone Selector equipped for 2" tubing. To convert to 2½", remove bottom swage and make up in top connection.

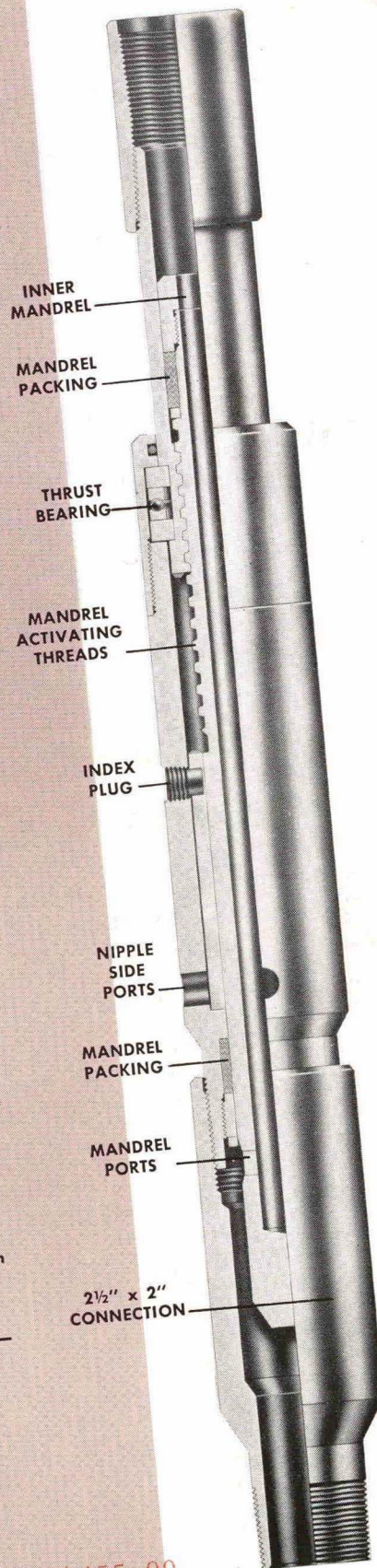
SIZE	2"	2½"
(1) Maximum O.D. of Nipple Body	3-11/16"	3-11/16"
(2) Nipple Ports	4 — 3/4" holes	4 — 3/4" holes
(3) Opening thru Mandrel	1 sq. in.	1 sq. in.
(4) Flow Openings thru Mandrel	3 — 9/16" holes	3 — 9/16" holes
(5) No. turns to change zones	8	8
Length over all	35-5/8"	35-5/8"
Approx. Weight	63#	63#

## PARTS & PRICE LIST

2"	375.00	\$455.00
2½"	375.00	\$455.00

**BROWN OIL TOOLS, INC.**

2214 CAMPBELL ST.  
HOUSTON, TEXAS



(DRAWING SHOWS TUBING  
OPEN AND NIPPLE SIDE  
PORTS CLOSED OFF FROM  
CASING)



Bolack Ex. #1

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in dual completions . . .

*Eliminates*

◆ **OUTSIDE SERVICE CREWS**

◆ **ZONES CO-MINGLING**

◆ **KILLING WELL AND PULLING TUBING**

◆ **DISTURBING PACKER SETTING**

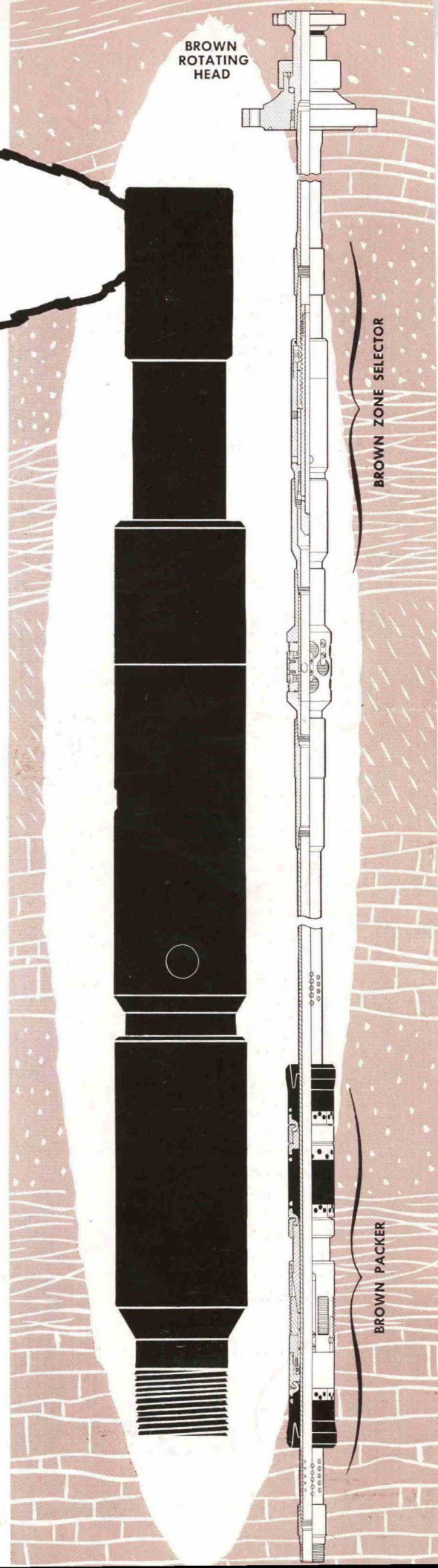
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Its applications are: (1) In a dual zone well, independent bottom hole pressure and temperature surveys as well as flow potentials can be taken through the tubing. (2) Acidizing and formation fracturing—treating the upper zone without disturbing the lower. (3) "Unloading" the annulus through the tubing and circulating hot oil or other solvents to wash out paraffin. (4) Pumping two zones intermittently with a single pump. (5) In single completion wells when zone selector is run with packer mud can be left on top of packer and well brought in through tubing, also permitting circulation above packer to kill well.



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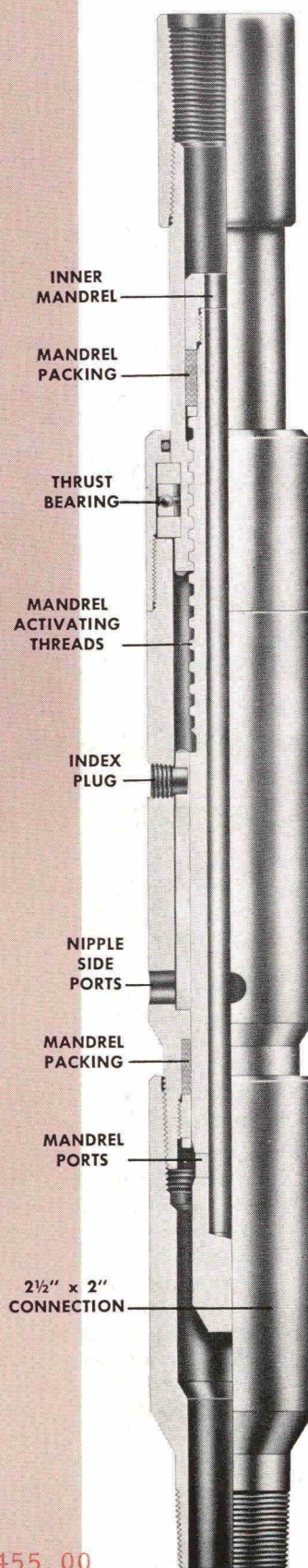
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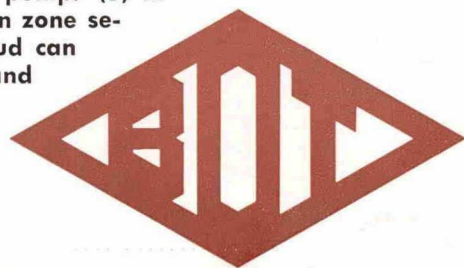
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