

**J.H. SEMP AND SONS,  
MACHINING, INC.**

790 NORTH NINTH AVENUE  
BRIGHTON, COLORADO 80603  
PHONE: (303)659-8480  
FAX: (303)659-8268  
[WWW.SEMPANDSONS.COM](http://WWW.SEMPANDSONS.COM)

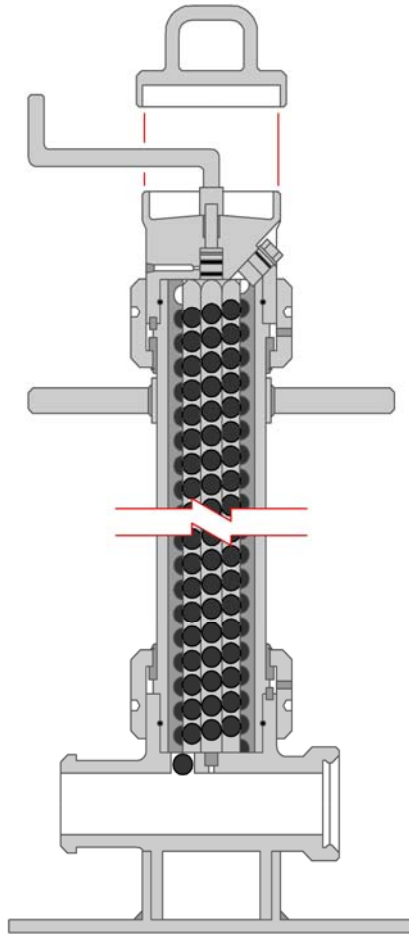
**HIGH-PRESSURE WELL  
STIMULATION  
COMPONENTS**

**BALL INJECTOR**  
**MODEL JHS-200**



# **BALL INJECTOR**

## **MODEL JHS-200**



THE JHS-200 BALL INJECTOR IS AN EXCELLENT PERFORMER FOR ANY TYPE OF ENVIRONMENT, AND AS A RESULT IT WILL HELP TO ACHIEVE A MORE SUCCESSFUL SELECTIVE DIVERSION OF FRACTURING OR ACIDIZING FLUIDS IN HIGH PRESSURE STIMULATION TREATMENT

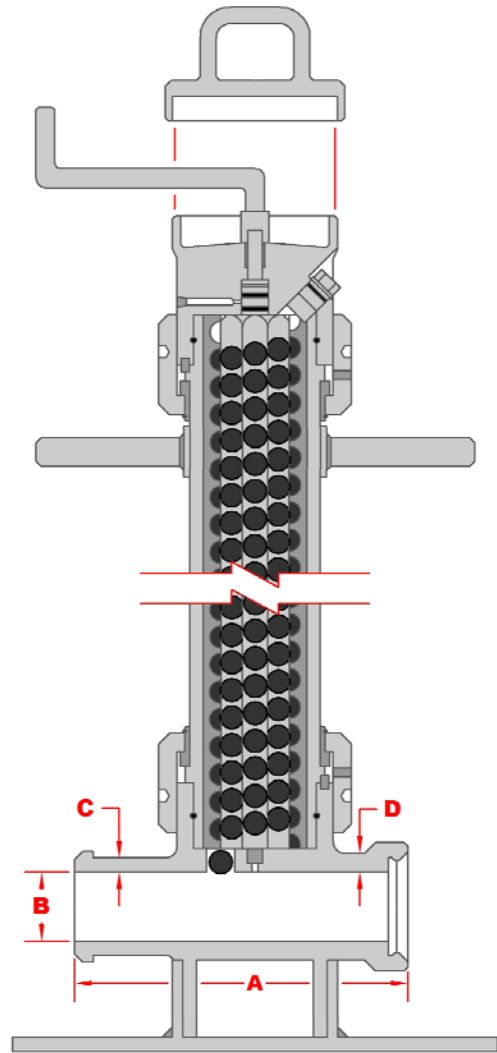
#### JHS-200 CHARACTERISTICS AND ADVANTAGES:

- HEAVY-DUTY CONSTRUCTION FOR ANY OILFIELD ENVIRONMENT
- HIGH PRESSURE APPLICATION – 15,000 PSI WORKING PRESSURE FOR 2" AND 3" 1502 MODELS WITH 22,500 PSI TEST PRESSURE
- POSITIVE BALL FEED
- FUNCTIONS EQUALLY WELL AT LOW OR HIGH PRESSURE
- WORKS EXTREMELY WELL IN FLUID STREAMS OF VARYING VISCOSITIES, DENSITIES, AND SAND CONCENTRATIONS
- 200 BALL CAPACITY (7/8" DIA.)
- IF A LARGER NUMBER OF BALLS ARE REQUIRED, ADDITIONAL UNITS MAY BE PLACED IN LINE



# BALL INJECTOR

## MODEL JHS-200 STANDARDS



| ASSEMBLY PART NUMBER    |   | 200-215    | 200-310    | 200-315    | 200-406   | 200-410    |
|-------------------------|---|------------|------------|------------|-----------|------------|
| CONNECTION AND SIZE     |   | 2" - 1502  | 3" - 1002  | 3" - 1502  | 4" - 602  | 4" - 1002  |
| DIMENSIONS              | A | 13.18"     | 13.38"     | 13.38"     | 13.50"    | 13.50"     |
|                         | B | 1.75"      | 2.50"      | 2.50"      | 3.00"     | 3.00"      |
| DESIGN FACTOR           |   | 2.00       | 2.00       | 2.00       | 2.00      | 2.00       |
| MIN. WALL THICKNESS (C) |   | .545"      | .750"      | .750"      | 1.00"     | 1.00"      |
| SAFETY FACTOR AT C      |   | 2.70       | 3.94       | 3.94       | 5.77      | 3.46       |
| MIN. WALL THICKNESS (D) |   | .875"      | .970"      | .970"      | 1.22"     | 1.22"      |
| SAFETY FACTOR AT D      |   | 3.60       | 3.79       | 2.53       | 8.00      | 4.80       |
| MAX. WORKING PRESSURE   |   | 15,000 PSI | 10,000 PSI | 15,000 PSI | 6000 PSI  | 10,000 PSI |
| TEST PRESSURE           |   | 22,500 PSI | 15,000 PSI | 22,500 PSI | 9,000 PSI | 15,000 PSI |



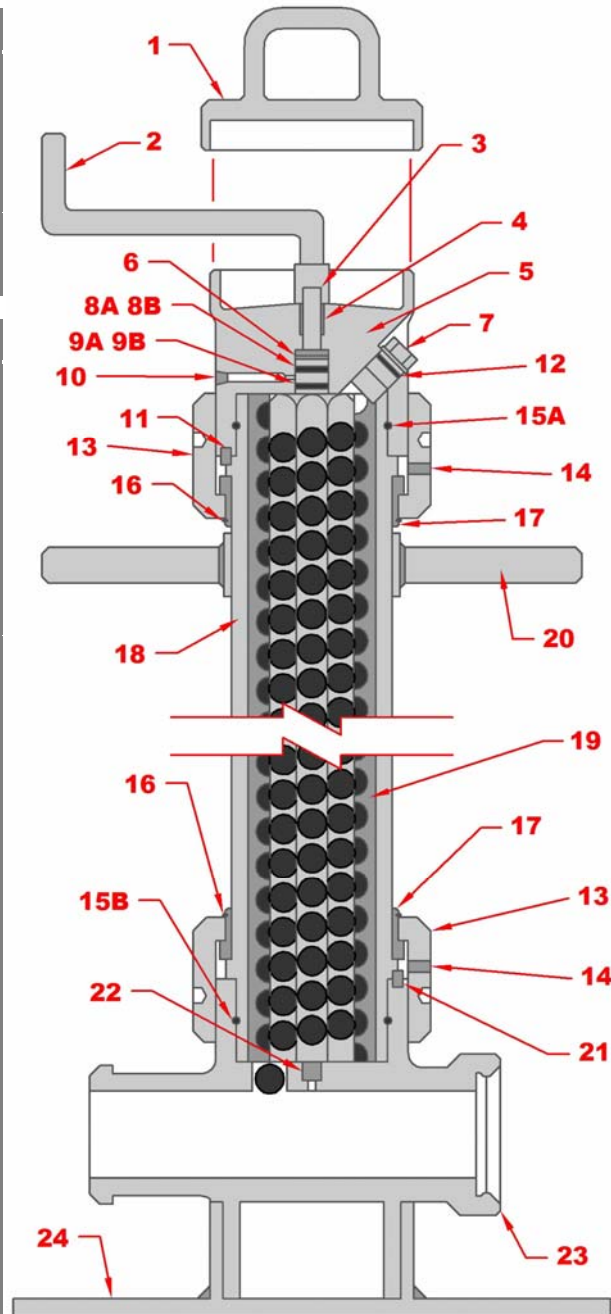
# BALL INJECTOR

## MODEL JHS-200

### PARTS LIST

| SIZE         | ASSEMBLY NUMBER |
|--------------|-----------------|
| 2" - 1502    | 200 - 215       |
| 3" - 1002    | 200 - 310       |
| 3" - 1502    | 200 - 315       |
| 4" - 602     | 200 - 406       |
| 4" - 1002    | 200 - 410       |
| * REPAIR KIT | 250             |

| ITEM # | PART #  | QTY.   | DESCRIPTION         |
|--------|---------|--------|---------------------|
| 1      | 201     | 1      | LIFTING CAP         |
| 2      | 202     | 1      | HAND CRANK          |
| 3      | 203     | 1      | VANE SHAFT          |
| 4      | 204     | 1      | BUSHING (TOP)       |
| 5      | 205     | 1      | CONTAINER CAP       |
| 6      | * 206   | 1      | THRUST BEARING      |
| 7      | * 207   | 1      | PLUG                |
| 8A     | * 208-A | 2      | UPPER SHAFT O-RING  |
| 8B     | * 208-B | 2      | UPPER BACKUP O-RING |
| 9A     | * 209-A | 2      | LOWER SHAFT O-RING  |
| 9B     | * 209-B | 2      | LOWER BACKUP O-RING |
| 10     | 210     | 1      | BLEEDING PLUG       |
| 11     | 211     | 1      | CAP PIN             |
| 12     | * 212   | 1      | PLUG O-RING         |
| 13     | 213     | 1      | NUT                 |
| 14     | 214     | 2      | SET SCREW           |
| 15A    | * 215-A | 2      | UPPER CONT. O-RING  |
| 15B    | * 215-B | 2      | LOWER CONT. O-RING  |
| 16     | 216     | 2      | SNAP RING           |
| 17     | 217     | 2 SETS | SEGMENT             |
| 18     | 218     | 1      | CONTAINER           |
| 19     | 219     | 1      | SLEEVE              |
| 20     | 220     | 1      | CARRY HANDLE        |
| 21     | 221     | 1      | BASE PIN            |
| 22     | 222     | 1      | BUSHING (BASE)      |
| 23     | 223-215 | 1      | 2"-1502 BASE *      |
|        | 223-310 | 1      | 3"-1002 BASE *      |
|        | 223-315 | 1      | 3"-1502 BASE *      |
|        | 223-406 | 1      | 4"-602 BASE *       |
|        | 223-410 | 1      | 4"-1002 BASE *      |
| 24     | 224     | 1      | PLATFORM            |



\* STRAIGHT BASES ALSO AVAILABLE



# BALL INJECTOR

## MODEL JHS-200

### #250 REPAIR KIT

| PART # | DESCRIPTION        | QTY |
|--------|--------------------|-----|
| 206    | THRUST BEARING     | 1   |
| 207    | PLUG (OPTIONAL)    | 1   |
| 208-A  | UPPER SHAFT O-RING | 1   |
| 208-B  | UPPER B-U O-RING   | 1   |
| 209-A  | LOWER SHAFT O-RING | 1   |
| 209-B  | LOWER B-U O-RING   | 1   |
| 212    | PLUG O-RING        | 1   |
| 215-A  | UPPER CONT. O-RING | 1   |
| 215-B  | LOWER CONT. O-RING | 1   |

