# **SN Series**

#### Description

Nitrogen bottles can be used in accumulator applications where large volumes of gas are required for an accumulator. The nitrogen bottle serves to store a large portion of the gas externally from the accumulator in order to reduce or minimize the size and cost of the accompanying accumulator. Nitrogen bottles are typically paired with piston accumulators and sometimes bladder accumulators. The nitrogen bottles themselves are based on either bladder or piston accumulator pressure vessel shells.

#### Model Code

Model Codes containing RED selections are non-standard items – Contact HYDAC for information and availability Not all combinations are available

|                |   | SN330 E | 8 - 57 | CC /      | 010       | S  | - 21 | 10 | EF        |
|----------------|---|---------|--------|-----------|-----------|----|------|----|-----------|
| Sorios         |   |         | - T    | $\top$    | $\square$ | Τ  |      |    | $\square$ |
| SN 330 -       | Nitrogen Bottle (3000 psi tvoically)  |         |        |           |           |    |      |    |           |
| SN 600 =       | Nitrogen Bottle (5000 psi <i>typically</i> )                                |         |        |           |           |    |      |    |           |
|                |   |         |        |           |           |    |      |    |           |
| Design Code*   | Observed Nilservery Ballie  |         |        |           |           |    |      |    |           |
| (omit) =       | Standard Nitrogen Bottle  |         |        |           |           |    |      |    |           |
| B =            | Based on Bladder Accumulator Shell (see page 7 for details)                 |         |        |           |           |    |      |    |           |
| IR =           | Top Repairable (Based on Bladder Accumulator Snell) see page 10 for details |         |        |           |           |    |      |    |           |
| n =            | Based on Piston Accumulator Shell   |         |        |           |           |    |      |    |           |
| 51Ze           | 54 Litoro   |         |        |           |           |    |      |    |           |
| 57 -           | 57 Liters   |         |        |           |           |    |      |    |           |
| 100 -          | 100 Liters  |         |        |           |           |    |      |    |           |
| 100 –          | 100 Eiters  |         |        |           |           |    |      |    |           |
| Connection T   | уре   |         |        | $\square$ |           |    |      |    |           |
| Connection 1   | (see table 1 on following page)   |         |        |           |           |    |      |    |           |
| A =            | BSP (ISO 228)   |         |        |           |           |    |      |    |           |
| В =            | Metric (DIN 13 According to ISO 965/1)                                      |         |        |           |           |    |      |    |           |
| C =            | SAE (ANSI B1.1) (standard)  |         |        |           |           |    |      |    |           |
| D =            | NPT (ANSI B2.1)   |         |        |           |           |    |      |    |           |
| F =            | Flange  |         |        |           |           |    |      |    |           |
| Connection 2   | (see table 1 on following page)   |         |        |           |           |    |      |    |           |
| A =            | BSP (ISO 228)   |         |        |           |           |    |      |    |           |
| B =            | Metric (DIN 13 According to ISO 965/1)                                      |         |        |           |           |    |      |    |           |
| C =            | SAE (ANSI B1.1) (standard)  |         |        |           |           |    |      |    |           |
| D =            | NPT (ANSI B2.1)   |         |        |           |           |    |      |    |           |
| F =            | Flange  |         |        |           |           |    |      |    |           |
| Material Code  | 9   |         |        | (         | +++       | ١L |      |    |           |
| Ports ——       |   |         |        |           |           |    |      |    |           |
| 0 =            | No Components (standard)  |         |        |           |           |    |      |    |           |
| 1 =            | Carbon steel  |         |        |           |           |    |      |    |           |
| 3 =            | Stainless steel   |         |        |           |           |    |      |    |           |
| 4 =            | Carbon steel (coated)   |         |        |           |           |    |      |    |           |
| Shell          |   |         |        |           |           |    |      |    |           |
| 1 –            | Carbon steel (standard)   |         |        |           |           |    |      |    |           |
| 2 -            | Carbon steel (coated)   |         |        |           |           |    |      |    |           |
| 4 =            | Staipless steel   |         |        |           |           |    |      |    |           |
|                |   |         |        |           |           |    |      |    |           |
| Seal Materia   |   |         |        |           |           |    |      |    |           |
| 0 =            | NO Elastomer (standard)   |         |        |           |           |    |      |    |           |
| 2 =            | NBR (Buna N)  |         |        |           |           |    |      |    |           |
| 4 =            | IIR (Butyl)   |         |        |           |           |    |      |    |           |
| 0 =            | I FINI (FINI (FINI OFIASIONE)   |         |        |           |           |    |      |    |           |
| Country of Ins | stallation  |         |        |           |           |    |      |    |           |
| S =            | USA (for other countries see page 2 for proper code designation)            |         |        |           |           |    |      |    |           |
| Maximum Wo     | rking Pressure in bar   |         |        |           |           |    |      | ]  |           |
| 210 =          | 3000 psi  |         |        |           |           |    |      |    |           |
| 345 =          | 5000 psi  |         |        |           |           |    |      |    |           |
| Connection S   | ize (see table 1 on following page)   |         |        |           |           |    |      |    |           |
| Connection 1   |   |         |        |           |           |    |      |    |           |
| Connection 2   |   |         |        |           |           |    |      |    |           |
| Connection 2   |   |         |        |           |           |    |      |    |           |

\* Size offering listed is for standard nitrogen bottles. For design types other than standard nitrogen bottles, (Eg. piston type) consult factory.

## F+P Charging and Testing Block

| Description                            | MAWP<br>bar/psi | Weight<br>(kg/lbs) | Part<br>Number |
|--|-----------------|--------------------|----------------|
| F+P-16-3/4-16UNF-6112-02X              | 400/5800        | 4.3/9.5            | 2068047        |
| F+P-32-1 5/8-12UN-6112-02X             | 350/5076        | 14/31              | 2067162        |
| F+P-32-1 5/8-12UN-6112-02X(VERS 4-FPS) | 350/5076        | 14/31              | 2075698        |



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A considerably shorter accumulator provides the same functionality as a larger accumulator when nitrogen bottles are used for a large portion of the nitrogen gas.



### **Dimensions**

| Size (MAWP)    | Connections (1 and 2) | Vol.<br>(gallons) | Weight<br>(Ibs) | A<br>(inches) | D<br>(inches) | Part<br>Number |
|----------------|-----------------------|-------------------|-----------------|---------------|---------------|----------------|
| 54 (5000 psi)  | 1 5/16-12UN           | 15                | 353             | 72"           | 9"            | C/F            |
| 57 (3000 psi)  | 1 5/16-12UN           | 15                | 247             | 72"           | 9"            | 2096345        |
| 75 (3000 psi)  | 1 5/16-12UN           | 20                | 317             | 80.7          | 9"            | C/F            |
| 100 (3000 psi) | 1 5/16-12UN           | 25                | 386             | 89.4"         | 10.5"         | C/F            |

Gas

Fluid

### **Connections:**

Example Model Code

SN... -57CC/010S-210EF CE = SAE 1 5/16" -12UN CF = SAE 1 5/8" -12UN

| Туре | А               | В                                | с            | D                  | F                       |
|------|-----------------|----------------------------------|--------------|--------------------|-------------------------|
| Size | BSP<br>(ISO228) | Metric<br>(DIN 13 Acc.ISO 965/1) | (ANSI B1.1)  | NPT<br>(ANSI B2.1) | SAE Flange              |
| А    | G 1/4"          | M 12 x 1.5                       | 7/16"-20 UNF | 1/4"               | 1/2" 3000 psi Code 61   |
| В    | G 3/8"          | M 18 x 1.5                       | 9/16"-18UNF  | 3/8"               | 3/4"-3000 psi Code 61   |
| С    | G 1/2"          | M 22 x 0.5                       | 3/4"-16UNF   | 1/2"               | 1" 3000 psi Code 61     |
| D    | G 3/4"          | M 27 x 2                         | 1 1/16"-12UN | 3/4"               | 1 1/4" 3000 psi Code 61 |
| E    | G 1"            | M 33 x 2                         | 1 5/16"-12UN | 1"                 | 1 1/2" 3000 psi Code 61 |
| F    | G 1 1/4"        | M 42 x 2                         | 1 5/8"-12UN  | 1 1/4"             | 2" 3000 psi Code 61     |
| G    | G 1 1/2"        | M 48 x 2                         | 1 7/8"-12UN  | 1 1/2"             | 1/2" 6000 psi Code 62   |
| Н    | G 2"            | M 14 x 1.5                       | 2 1/2"-12UN  | 2"                 | 3/4" 6000 psi Code 62   |
| I    | G 1 3/4"        | M 8                              | 1/2"-20UNF   | _                  | 1" 6000 psi Code 62     |
| J    | _               | _                                | _            | _                  | 1 1/4" 6000 psi Code 62 |
| K    | _               | _                                | 7/8"-14UNF   | 5/8"               | 1 1/2" 6000 psi Code 62 |
| L    | _               | _                                | —            | _                  | 2" 6000 psi Code 62     |

Items in RED are using the basic design with an adapter. Dimensions are for general information only, all critical dimensions should be verified by requesting a certified print.

HYDAC INNOVATIVE FLUID POWER

ØD-**Connection 1** А

Connection 2

Accumulator and Nitrogen Bottle with recommended F+P Changing + Testing Unit and SAF Safety Shut off Block Connection for Charging & Testing Unit - FPS or FPK



# SN 300 SN330B-\_C4/112S-210G



#### **Bottom Repairable**

| Nom                 |                                  |              |                |             |             |              |             | Thread J                |
|---------------------|----------------------------------|--------------|----------------|-------------|-------------|--------------|-------------|-------------------------|
| <b>Vol.</b><br>(L.) | Eff. Gas<br>Vol. in <sup>3</sup> | Weight       | A              | В           | С           | ØD           | ØE          | SAE                     |
| 10                  | 566                              | 86<br>(39)   | 22.0<br>(559)  | 3.1<br>(80) | 1.6<br>(40) | 9.1<br>(231) | 3.0<br>(76) | 1 7/8-24 UN<br>(SAE-24) |
| 20                  | 1125                             | 140<br>(63)  | 34.5<br>(876)  | 3.1<br>(80) | 1.6<br>(40) | 9.1<br>(231) | 3.0<br>(76) | 1 7/8-24 UN<br>(SAE-24) |
| 32                  | 2080                             | 226<br>(102) | 54.7<br>(1390) | 3.1<br>(80) | 1.6<br>(40) | 9.1<br>(231) | 3.0<br>(76) | 1 7/8-24 UN<br>(SAE-20) |
| 54                  | 3205                             | 330<br>(150) | 78.3<br>(1980) | 3.1<br>(80) | 1.6<br>(40) | 9.1<br>(231) | 3.0<br>(76) | 1 7/8-24 UN<br>(SAE-24) |

Consult factory for more details

Dimensions are for general information only, all critical dimensions should be verified. Dimensions are in inches/(mm) and lbs/(kg)

# SN330BTR-\_CC/112S-210GG



#### **Top Repairable**

| Nom. | Eff. Gas             | Woight       | •              | <u> </u>    | ØD           | ØF          | Thread J                |
|------|----------------------|--------------|----------------|-------------|--------------|-------------|-------------------------|
| (L.) | Vol. in <sup>3</sup> | weigni       | A              |             | 00           | ØE          | SAE                     |
| 10   | 566                  | 86<br>(43)   | 23.5<br>(597)  | 3.1<br>(80) | 9.1<br>(231) | 3.0<br>(76) | 1 7/8-24 UN<br>(SAE-24) |
| 20   | 1125                 | 140<br>(63)  | 36.5<br>(927)  | 3.1<br>(80) | 9.1<br>(231) | 3.0<br>(76) | 1 7/8-24 UN<br>(SAE-24) |
| 32   | 2080                 | 226<br>(102) | 56.2<br>(1428) | 3.1<br>(80) | 9.1<br>(231) | 3.0<br>(76) | 1 7/8-24 UN<br>(SAE-24) |
| 54   | 3205                 | 330<br>(150) | 79.8<br>(2027) | 3.1<br>(80) | 9.1<br>(231) | 3.0<br>(76) | 1 7/8-24 UN<br>(SAE-24) |

Consult factory for more details

Dimensions are for general information only, all critical dimensions should be verified. Dimensions are in inches/(mm) and lbs/(kg)