### Sandwich Assemblies

**ISO 05 / CETOP 5 RELIEF VALVES**
*(SIDE PORTED SUBPLATE / REAR PORTED SUBPLATE / SIDE PORTED SUBPLATE WITH GASKET MOUNTED TANK PORT)*

#### T-10A Cavity

**PILOT OPERATED**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B, P, T</td>
<td>RPEC-LAN-FSV</td>
</tr>
</tbody>
</table>

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

**DIRECT ACTING**

<table>
<thead>
<tr>
<th>Ports</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B, P, T</td>
<td>RDDA-LAN-FSV</td>
</tr>
</tbody>
</table>

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

**Ports | Assembly Model Code***

<table>
<thead>
<tr>
<th>Ports</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B, P, T</td>
<td>RPEC-LAN-FRV</td>
</tr>
</tbody>
</table>

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

<table>
<thead>
<tr>
<th>Ports</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B, P, T</td>
<td>RDDA-LAN-FTV</td>
</tr>
</tbody>
</table>

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

---

**NOTES:** Page 2 for cartridge models RP*C-*** and RD*A-*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits. Go to www.sunhydraulics.com for more product information. Model Codes printed in red are Preferred Products and are readily available.
Sandwich Assemblies
ISO 05 / CETOP 5 RELIEF VALVES

All sandwich bodies shown below are 63.5 mm wide

**PILOT OPERATED**

<table>
<thead>
<tr>
<th>Assembly Model Code</th>
<th>Assembly Model Code</th>
<th>Assembly Model Code</th>
<th>Assembly Model Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPEC-LAN-CBE/M</td>
<td>RPEC-LAN-CBF/M</td>
<td>RPEC-LAN-CBG/M</td>
<td>RPEC-LAN-CBI</td>
</tr>
</tbody>
</table>

Function

**DIRECT ACTING**

<table>
<thead>
<tr>
<th>Assembly Model Code</th>
<th>Assembly Model Code</th>
<th>Assembly Model Code</th>
<th>Assembly Model Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDDA-LAN-CBE/M</td>
<td>RDDA-LAN-CBF/M</td>
<td>RDDA-LAN-CBG/M</td>
<td>RDDA-LAN-CBI</td>
</tr>
</tbody>
</table>

Function

NOTES: Page 2 for cartridge models RPC*** and RD*A*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits.

Go to www.sunhydraulics.com for more product information.

Model Codes printed in red are Preferred Products and are readily available.
Sandwich Assemblies

ISO 05 / CETOP 5 RELIEF VALVES

T-10A Cavity/T-2A Cavity

PILOT OPERATED

<table>
<thead>
<tr>
<th>Assembly Model Code*</th>
<th>Vent Port Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPEC-LAN-CBH/M</td>
<td>1/4” BSPP RVEA-LAN-BBC/M</td>
</tr>
<tr>
<td></td>
<td>*Add modifier /T to order SG Iron for pressure rating over 210 bar.</td>
</tr>
</tbody>
</table>

DIRECT ACTING

Function

<table>
<thead>
<tr>
<th>Function</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A to B</td>
<td>RPEC-LAN-CBH/M</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>B to A</td>
<td>RDDA-LAN-CBH/M</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
Page 2 for cartridge models RP*C-***, RD*A-*** and page 12 for cartridge model RV*A-*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits. Go to www.sunhydraulics.com for more product information.
Sandwich Assemblies

ISO 05 / CETOP 5 SEQUENCE VALVES

### T-2A Cavity

**All sandwich bodies shown below are 63,5 mm wide**

#### PILOT OPERATED

<table>
<thead>
<tr>
<th>Assembly Model Code*</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSFC-LAN-BBW/M</td>
<td>In to P</td>
</tr>
</tbody>
</table>

Add modifier /T to order SAE Iron for pressure rating over 210 bar.

#### DIRECT ACTING

<table>
<thead>
<tr>
<th>Assembly Model Code*</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>SXEA-LAN-BBW/M</td>
<td>Into A (Reverse Free Flow Check)</td>
</tr>
<tr>
<td></td>
<td>Out of B (Reverse Free Flow Check)</td>
</tr>
</tbody>
</table>

Add modifier /T to order SAE Iron for pressure rating over 210 bar.

<table>
<thead>
<tr>
<th>Assembly Model Code*</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>SXEA-LAN-BB4</td>
<td>Into B (Reverse Free Flow Check)</td>
</tr>
<tr>
<td></td>
<td>Out of A (Reverse Free Flow Check)</td>
</tr>
</tbody>
</table>

Add modifier /S to order SAE Iron for pressure rating over 210 bar.

### NOTES:

Page 20 for cartridge model RS*C-*** and SX*A-*** and page 102 for CX*D-*** show performance curves, technical tips, and options.

See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits.

Go to www.sunhydraulics.com for more product information.

Model Codes printed in red are Preferred Products and are readily available.
**Sandwich Assemblies**

**ISO 05 / CETOP 5 REDUCING VALVES**

**T-2A Cavity** All sandwich bodies shown below are 63,5 mm wide

**PILOT OPERATED**

*Add modifier /T to order SG Iron for pressure rating over 210 bar.*

**Assembly Model Code**

**PBFB-LAN-BBP/M**

*On P Drained to T*

**PBFB-LAN-BBA/M**

*On A Drained to B*

**PBFB-LAN-BBB/M**

*On B Drained to A*

**PBFB-LAN-BB2**

*(Reverse Free Flow Check)*

**PBFB-LAN-BB3**

*(Reverse Free Flow Check)*

**Function**

**NOTES:** Page 34 for cartridge model PB*B-*** and page 102 for cartridge model CX*A-*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studs, and studkits. Go to www.sunhydraulics.com for more product information. Model Codes printed in red are Preferred Products and are readily available.
### Sandwich Assemblies

#### ISO 05 / CETOP 5 REDUCING / RELIEVING VALVES

**T-2A Cavity**

*All sandwich bodies shown below are 63,5 mm wide*

<table>
<thead>
<tr>
<th>PILOT OPERATED</th>
<th>DIRECT ACTING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assembly Model Code</strong></td>
<td><strong>Function</strong></td>
</tr>
<tr>
<td>PPFB-LAN-BBP/M</td>
<td>On P, Tank to T</td>
</tr>
<tr>
<td>PPFB-LAN-BB2</td>
<td>On A, Tank to T (Reverse Free Flow Check)</td>
</tr>
<tr>
<td>PPFB-LAN-BB3</td>
<td>On B, Tank to T (Reverse Free Flow Check)</td>
</tr>
</tbody>
</table>

*Add modifier /T to order SG Iron for pressure rating over 210 bar.*

*Add modifier /S to order SG Iron for pressure rating over 210 bar.*

**NOTES:** Page 42 for cartridge models PP*B-*** and PR*B-*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits. Go to www.sunhydraulics.com for more product information. Model Codes printed in red are Preferred Products and are readily available.
## Sandwich Assemblies

### ISO 05 / CETOP 5 COUNTERBALANCE VALVES

**T-2A Cavity**

All sandwich bodies shown below are 63.5 mm wide.

<table>
<thead>
<tr>
<th>Function</th>
<th>PILOT RATIOS</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>On A, Pilot from B</td>
<td>3:1 (CBEA), 1.5:1 (CBEB), 2:1 (CBEY)</td>
<td>CBE*-LHN-BBA/M</td>
</tr>
</tbody>
</table>

*The 4th digit of the Model Code must be entered to specify counterbalance pilot ratio. Add modifier /T to order SG Iron for pressure rating over 210 bar.

<table>
<thead>
<tr>
<th>Function</th>
<th>PILOT RATIOS</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>On B, Pilot from A</td>
<td>2.3:1 (CBEI), 4.5:1 (CBEG), 10:1 (CBEH)</td>
<td>CBE*-LHN-BBB/M</td>
</tr>
</tbody>
</table>

*The 4th digit of the Model Code must be entered to specify counterbalance pilot ratio. Add modifier /T to order SG Iron for pressure rating over 210 bar.

<table>
<thead>
<tr>
<th>Function</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>On A and B (Cross-Piloted)</td>
<td>CBE*-LHN-BBY</td>
</tr>
</tbody>
</table>

*The 4th digit of the Model Code must be entered to specify counterbalance pilot ratio. Add modifier /S to order SG Iron for pressure rating over 210 bar.

<table>
<thead>
<tr>
<th>Function</th>
<th>Assembly Model Code*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cushion Lock Circuit On A and B</td>
<td>CBE*-LHN-BB8</td>
</tr>
</tbody>
</table>

*The 4th digit of the Model Code must be entered to specify counterbalance pilot ratio. Add modifier /S to order SG Iron for pressure rating over 210 bar.

---

**NOTES:**

Page 50 for cartridge model CB**-*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits. Go to www.sunhydraulics.com for more product information.

Model Codes printed in red are Preferred Products and are readily available.
Sandwich Assemblies

ISO 05 / CETOP 5 PILOT-TO-OPEN CHECK VALVES

T-2A Cavity

All sandwich bodies shown below are 63,5 mm wide

PILOT OPERATED

Function
On A, Pilot from B

Assembly
Model Code
CKEB-XCN-BBA/M

*Add modifier T to order SU Iron for pressure rating over 210 bar.

Function
On B, Pilot from A

Assembly
Model Code
CKEB-XCN-BBB/M

*Add modifier T to order SU Iron for pressure rating over 210 bar.

Function
On A and B (Cross-piloted)

Assembly
Model Code
CKEB-XCN-BBY

*Add modifier S to order SU Iron for pressure rating over 210 bar.

NOTES: Page 78 for cartridge model CK**-*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits. Go to www.sunhydraulics.com for more product information. Model Codes printed in red are Preferred Products and are readily available.
**Sandwich Assemblies**

**ISO 05 / CETOP 5 CHECK VALVES**

**T-5A Cavity**

All sandwich bodies shown below are 63,5 mm wide

### Function

**On P**

#### Assembly

**Model Code:** CXFA-XCN-DBP

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

#### Assembly

**Model Code:** CXFA-XCN-DBK

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

#### Assembly

**Model Code:** CXFA-XCN-DBJ

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

### Function

**On A, Free Flow Out of Valve**

**On B, Free Flow Into Valve**

#### Assembly

**Model Code:** CXFA-XAN-DBW

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

### Function

**T to A and B**

---

**NOTES:** Page 102 for cartridge models CX*A-*** and CX*D-*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits. Go to www.sunhydraulics.com for more product information. Model Codes printed in red are Preferred Products and are readily available.
Sandwich Assemblies

ISO 05 / CETOP 5 FLOW CONTROL VALVES

T-5A Cavity

All sandwich bodies shown below are 63.5 mm wide

**FULLY ADJUSTABLE NEEDLE WITH REVERSE FREE FLOW CHECK**

![Diagram]

**Assembly Model Code**

NFDC-LAN-DBP

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

![Diagram]

**Assembly Model Code**

NCEB-LAN-DBA

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

![Diagram]

**Assembly Model Code**

NCEB-LAN-DBB

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

![Diagram]

**Assembly Model Code**

NCEB-LAN-DBC

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

![Diagram]

**Assembly Model Code**

NCEB-LAN-DBY

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

NOTES:

See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits.

See page 126 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits.

Model Codes printed in red are Preferred Products and are readily available.

Go to www.sunhydraulics.com for more product information.
**Sandwich Assemblies**

**ISO 05 / CETOP 5 FLOW CONTROL VALVES**

**T-13A Cavity**

FULLY ADJUSTABLE NEEDLE

All sandwich bodies shown below are 63.5 mm wide

Function

- Meter A to B
- Meter B to A

**Assembly Model Code**

NFCC-LCN-DBS

*Add modifier /S to order SG Iron for pressure rating over 210 bar.*

**NOTES:** Page 110 for cartridge models NF*C-*** show performance curves, technical tips, and options. See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits. Go to www.sunhydraulics.com for more product information.
Sandwich Assemblies
ISO 05 / CETOP 5 FLOW CONTROL VALVES
(RAPID ADVANCE AND FEED ASSEMBLIES)

T-5A Cavity

Fixed Orifice Tunable,
Pressure Compensated

Function
Meter-Out T, Solenoid Normally Closed

Fully Adjustable, Pressure Compensated With Free Flow Check

Assembly
Model Code:
X3DD-LAN-CA

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

Coil must be selected separately. See page 248.

Function
Meter in P, Solenoid Normally Closed

Assembly
Model Code:
X2DD-LAN-CA

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

Coil must be selected separately. See page 248.

Function
Meter-Out A, Solenoid Normally Closed
Meter-In B, Solenoid Normally Closed

Assembly
Model Code:
X6DD-LAN-CA

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

Coil must be selected separately. See page 248.

Function
Meter-In A, Solenoid Normally Closed
Meter-Out B, Solenoid Normally Closed

Assembly
Model Code:
X4DD-LAN-CA

*Add modifier /S to order SG Iron for pressure rating over 210 bar.

Coil must be selected separately. See page 248.

NOTES:
Page 110 for cartridge models NF*C-*** and NC*B-*** show performance curves, technical tips, and options.
See page 140 for technical information about sandwich bodies including ISO interface patterns, mounting instructions, studrods, and studkits.
Go to www.sunhydraulics.com for more product information.