



### UHV Vented Fasteners

Vented Screws, Washers and Lock-Washers

All Materials are HV and UHV compatible

Socket Head Cap Screws



Phillips Pan head Screws

Phillips Flathead Screws

### Features

- UHV compatible construction
- Multiple fastener head types
- Custom solutions on request

### Specifications

#### Vacuum Range

UHV, Ultrahigh vacuum	1x10 <sup>-10</sup> Torr
HV, High vacuum	1x10 <sup>-8</sup> Torr

#### Temperature Range<sup>1,2</sup>

18-8 Stainless Steel	450°C
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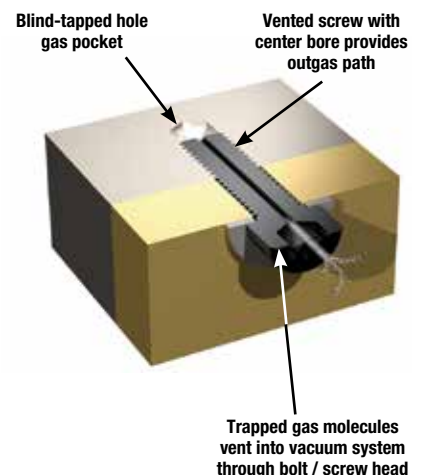
### Notes

1. Overall assembly ratings must be adjusted to that of its lowest rated component.
  2. Prolonged use at high temperatures may require the use of a vacuum compatible anti-seizing thread compound or coating such as silver-plating. Contact factory for custom vented screw solutions
- § Unless specified otherwise, dimensional units in all sections of this catalog are expressed in inches.

### UHV Vented Fasteners

Accu-Glass Products, Inc., offers three types of vented screws: socket head cap screws, Phillips pan head and Phillips flat head screws. All screws are machined from vacuum compatible 18-8 stainless steel. These are available as standard off-the-shelf items. Custom screws and bolts can be quoted upon request.

The use of "vented" screws in vacuum environments is critical. Non-vented screws create gas pockets that are difficult to pump down. These gases show themselves as "virtual leaks" causing unwanted downtime.





The use of 'Vented' fasteners inside a vacuum environment is critical. A non-vented, blind-threaded hole creates a gas pocket that's difficult or impossible to evacuate (pump down) without an escape path. A trapped gas will manifest it self as a 'virtual leak', which is difficult to locate and causes unwanted downtime. Accu-Glass vented fasteners are manufactured from vacuum compatible 18-8 grade stainless steel.

**Socket-Head Cap — Vented Screws / 450°C / UHV to 1x10<sup>-10</sup> Torr**

Screw Size, Length	Qty / Pack	Part Number	Price \$
<b>2-56 UNC — ANSI .086-56</b>			
1/8	10	<b>210040</b>	15
3/16	10	<b>210041</b>	15
1/4	10	<b>210042</b>	12
5/16	10	<b>210043</b>	17
3/8	10	<b>210044</b>	19
7/16	10	<b>210045</b>	25
1/2	5	<b>210046</b>	17
5/8	2	<b>210047</b>	11
3/4	2	<b>210048</b>	19
<b>4-40 UNC — ANSI .112-40</b>			
1/8	10	<b>210035</b>	15
3/16	10	<b>210011</b>	15
1/4	10	<b>210003</b>	12
5/16	10	<b>210036</b>	15
3/8	10	<b>210005</b>	15
7/16	10	<b>210037</b>	20
1/2	10	<b>210007</b>	23
9/16	5	<b>210008</b>	18
5/8	5	<b>210009</b>	20
3/4	5	<b>210010</b>	26
7/8	2	<b>210038</b>	17
1	2	<b>210039</b>	18
<b>5-40 UNC — ANSI .125-40</b>			
1/4	10	<b>210049</b>	15
5/16	10	<b>210050</b>	16
3/8	10	<b>210051</b>	17
1/2	10	<b>210052</b>	27
5/8	5	<b>210053</b>	22
3/4	2	<b>210054</b>	12
7/8	2	<b>210055</b>	15
1	2	<b>210056</b>	19
<b>6-32 UNC — ANSI .138-32</b>			
1/8	10	<b>210057</b>	12
3/16	10	<b>210016</b>	10
1/4	10	<b>210017</b>	10
5/16	10	<b>210625</b>	13

Screw Size, Length	Qty / Pack	Part Number	Price \$
<i>6-32 Continued</i>			
3/8	10	<b>210018</b>	13
7/16	10	<b>210058</b>	15
1/2	10	<b>210019</b>	17
9/16	5	<b>210059</b>	11
5/8	5	<b>210060</b>	11
3/4	5	<b>210020</b>	15
7/8	2	<b>210061</b>	8
1	2	<b>210062</b>	11
1-1/8	2	<b>210063</b>	15
1-1/4	2	<b>210064</b>	16
<b>8-32 UNC — ANSI .164-32</b>			
3/16	10	<b>210065</b>	12
1/4	10	<b>210021</b>	10
5/16	10	<b>210066</b>	14
3/8	10	<b>210022</b>	14
7/16	10	<b>210067</b>	19
1/2	10	<b>210023</b>	17
9/16	10	<b>210068</b>	24
5/8	5	<b>210617</b>	15
3/4	5	<b>210024</b>	14
7/8	5	<b>210069</b>	18
1	5	<b>210618</b>	26
1-1/8	2	<b>210070</b>	13
1-1/4	2	<b>210071</b>	17
1-1/2	2	<b>210072</b>	20
2	1	<b>210073</b>	25
<b>10-24 UNC — ANSI .190-24</b>			
1/4	10	<b>210074</b>	15
3/8	10	<b>210075</b>	15
1/2	10	<b>210076</b>	15
5/8	10	<b>210077</b>	17
3/4	10	<b>210078</b>	20
7/8	5	<b>210079</b>	17
1	5	<b>210080</b>	18
<b>10-32 UNF — ANSI .190-32</b>			
3/16	10	<b>210081</b>	15

Screw Size, Length	Qty / Pack	Part Number	Price \$
<i>10-32 Continued</i>			
1/4	10	<b>210025</b>	10
5/16	10	<b>210620</b>	11
3/8	10	<b>210026</b>	11
7/16	10	<b>210082</b>	15
1/2	10	<b>210027</b>	15
9/16	10	<b>210083</b>	20
5/8	10	<b>210619</b>	22
11/16	5	<b>210084</b>	22
3/4	10	<b>210028</b>	20
7/8	5	<b>210085</b>	15
1	5	<b>210621</b>	23
1-1/8	5	<b>210086</b>	23
1-1/4	5	<b>210622</b>	28
1-3/8	2	<b>210087</b>	12
1-1/2	2	<b>210088</b>	14
1-5/8	2	<b>210089</b>	20
1-3/4	2	<b>210090</b>	22
2	1	<b>210091</b>	18
<b>1/4-20 UNC — ANSI .250-20</b>			
1/4	10	<b>210092</b>	18
5/16	10	<b>210093</b>	18
3/8	10	<b>210031</b>	13
1/2	10	<b>210032</b>	14
5/8	10	<b>210094</b>	19
3/4	10	<b>210029</b>	19
7/8	5	<b>210095</b>	27
1	5	<b>210030</b>	17
1-1/8	5	<b>210096</b>	25
1-1/4	5	<b>210033</b>	27
1-3/8	5	<b>210034</b>	38
1-1/2	2	<b>210097</b>	12
1-5/8	2	<b>210098</b>	18
1-3/4	2	<b>210099</b>	19
2	1	<b>210100</b>	15
2-1/2	1	<b>210101</b>	28



**210027** / Socket Head Cap #10-32 Vented Screws



The use of 'Vented' fasteners inside a vacuum environment is critical. A non-vented, blind-threaded hole creates a gas pocket that's difficult or impossible to evacuate (pump down) without an escape path. A trapped gas will manifest itself as a 'virtual leak', which is difficult to locate and causes unwanted downtime. Accu-Glass vented fasteners are manufactured from vacuum compatible 18-8 grade stainless steel.



**210300** / Phillips Pan Head  
#4-40 Vented Screw

### Phillips Pan Head — Vented Screws / 450°C / UHV to 1x10<sup>-10</sup> Torr

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>2-56 UNC — ANSI .086-56</b>			
1/8	10	<b>210317</b>	10
1/4	10	<b>210318</b>	11
3/8	10	<b>210319</b>	17
1/2	5	<b>210320</b>	15
3/4	2	<b>210321</b>	17
<b>4-40 UNC — ANSI .112-40</b>			
1/8	10	<b>210322</b>	10
3/16	10	<b>210323</b>	10
1/4	10	<b>210300</b>	11
5/16	10	<b>210324</b>	14
3/8	10	<b>210301</b>	14
7/16	10	<b>210325</b>	19
1/2	10	<b>210326</b>	24
5/8	5	<b>210327</b>	15
3/4	2	<b>210328</b>	12

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>6-32 UNC — ANSI .138-32</b>			
1/4	10	<b>210302</b>	10
5/16	10	<b>210623</b>	10
3/8	10	<b>210303</b>	10
1/2	10	<b>210329</b>	14
5/8	10	<b>210330</b>	17
3/4	10	<b>210331</b>	24
1	2	<b>210332</b>	12
<b>8-32 UNC — ANSI .164-32</b>			
1/4	10	<b>210304</b>	10
3/8	10	<b>210305</b>	10
1/2	10	<b>210624</b>	13
3/4	10	<b>210333</b>	24
1	2	<b>210334</b>	12
1-1/4	2	<b>210335</b>	19

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>10-32 UNF — ANSI .190-32</b>			
1/4	10	<b>210336</b>	10
3/8	10	<b>210337</b>	11
1/2	10	<b>210338</b>	12
3/4	10	<b>210339</b>	17
1	10	<b>210340</b>	25
<b>1/4-20 UNC — ANSI .250-20</b>			
1/4	10	<b>210341</b>	13
3/8	10	<b>210342</b>	13
1/2	10	<b>210343</b>	14
5/8	10	<b>210344</b>	15
3/4	10	<b>210345</b>	18
1	10	<b>210346</b>	25



**210306** / Phillips Flat Head  
#4-40 Vented Screw

### Phillips Flat Head — Vented Screws / 450°C / UHV to 1x10<sup>-10</sup> Torr

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>2-56 UNC — ANSI .086-56</b>			
1/8	10	<b>210347</b>	12
3/16	10	<b>210626</b>	12
1/4	10	<b>210348</b>	12
3/8	10	<b>210349</b>	17
1/2	10	<b>210350</b>	22
3/4	2	<b>210351</b>	17
<b>4-40 UNC — ANSI .112-40</b>			
1/8	10	<b>210352</b>	12
1/4	10	<b>210306</b>	10
3/8	10	<b>210307</b>	13
1/2	10	<b>210353</b>	22
3/4	2	<b>210354</b>	14

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>6-32 UNC — ANSI .138-32</b>			
1/4	10	<b>210308</b>	10
3/8	10	<b>210309</b>	10
1/2	10	<b>210355</b>	12
5/8	10	<b>210356</b>	17
3/4	10	<b>210357</b>	22
1	2	<b>210358</b>	14
<b>8-32 UNC — ANSI .164-32</b>			
1/4	10	<b>210310</b>	10
3/8	10	<b>210311</b>	11
1/2	10	<b>210316</b>	15
3/4	10	<b>210359</b>	20
1	2	<b>210360</b>	12

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>10-32 UNF — ANSI .190-32</b>			
1/4	10	<b>210361</b>	10
3/8	10	<b>210312</b>	10
1/2	10	<b>210313</b>	13
3/4	10	<b>210362</b>	17
1	5	<b>210363</b>	14
1-1/4	2	<b>210364</b>	8
<b>1/4-20 UNC — ANSI .250-20</b>			
1/2	10	<b>210314</b>	12
3/4	10	<b>210315</b>	15
1	10	<b>210365</b>	17
1-1/4	2	<b>210366</b>	10



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## Hex Head — Vented Screws / 450°C / UHV to 1x10<sup>-10</sup> Torr

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>4-40 UNC — ANSI .112-40</b>			
1/4	10	<b>210367</b>	10
3/8	10	<b>210368</b>	18
1/2	10	<b>210369</b>	22
3/4	2	<b>210370</b>	16
<b>6-32 UNC — ANSI .138-32</b>			
1/4	10	<b>210371</b>	10
3/8	10	<b>210372</b>	18
1/2	10	<b>210373</b>	18
3/4	5	<b>210374</b>	18
1	2	<b>210375</b>	12

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>8-32 UNC — ANSI .164-32</b>			
1/4	10	<b>210376</b>	10
3/8	10	<b>210377</b>	14
1/2	10	<b>210378</b>	18
3/4	10	<b>210379</b>	18
1	2	<b>210380</b>	12
<b>10-32 UNF — ANSI .190-32</b>			
1/4	10	<b>210381</b>	10
3/8	10	<b>210382</b>	10
1/2	10	<b>210383</b>	12
3/4	10	<b>210384</b>	18
1	5	<b>210385</b>	18
1-1/4	2	<b>210386</b>	12

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>1/4-20 UNC — ANSI .250-20</b>			
3/8	10	<b>210387</b>	10
1/2	10	<b>210388</b>	10
5/8	10	<b>210389</b>	18
3/4	10	<b>210390</b>	18
1	5	<b>210391</b>	16
1-1/4	2	<b>210392</b>	10
<b>5/16-24 UNF — ANSI .312-24</b>			
1/2	10	<b>210393</b>	17
5/8	10	<b>210394</b>	22
3/4	5	<b>210395</b>	20
1	2	<b>210396</b>	8
1-1/4	2	<b>210397</b>	13
1-1/2	2	<b>210398</b>	16



**210388** / Hex Head  
1/4-20 Vented Screw

## Socket Set Screw — Vented Screws / 450°C / UHV to 1x10<sup>-10</sup> Torr

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>2-56 UNC — ANSI .086-56</b>			
1/8	10	<b>210418</b>	10
1/4	10	<b>210419</b>	10
3/8	10	<b>210420</b>	19
1/2	5	<b>210421</b>	19
3/4	2	<b>210422</b>	20
<b>4-40 UNC — ANSI .112-40</b>			
1/8	10	<b>210423</b>	10
1/4	10	<b>210424</b>	10
3/8	10	<b>210425</b>	14
1/2	10	<b>210426</b>	22
3/4	2	<b>210427</b>	12

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>6-32 UNC — ANSI .138-32</b>			
1/4	10	<b>210428</b>	10
3/8	10	<b>210429</b>	10
1/2	10	<b>210430</b>	14
3/4	10	<b>210431</b>	22
1	2	<b>210432</b>	14
<b>8-32 UNC — ANSI .164-32</b>			
1/4	10	<b>210433</b>	10
3/8	10	<b>210434</b>	10
1/2	10	<b>210435</b>	14
3/4	10	<b>210436</b>	22
1	2	<b>210437</b>	14

Screw Size / Length	Qty / Pack	Part Number	Price \$
<b>10-32 UNF — ANSI .190-32</b>			
1/4	10	<b>210438</b>	10
3/8	10	<b>210439</b>	10
1/2	10	<b>210440</b>	12
3/4	10	<b>210441</b>	20
1	5	<b>210442</b>	18
1-1/4	2	<b>210443</b>	9
<b>1/4-20 UNC — ANSI .250-20</b>			
1/4	10	<b>210444</b>	10
3/8	10	<b>210445</b>	10
1/2	10	<b>210446</b>	16
5/8	10	<b>210447</b>	18
3/4	10	<b>210448</b>	22



**210446** / Socket Set Screw  
1/4-20 Vented Set Screw

Vacuum Hardware



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**210405** / Flat Washer  
1/4 Inch Vented



**210414** / Lock Washer  
1/4 Inch Vented

### Washers — Vented, Flat and Split Lock Washers / 450°C / UHV to 1x10<sup>-10</sup> Torr

Fastener Size	Qty / Pack	Part Number	Price \$
<b>Flat Washer — with Face Groove</b>			
#2	10	<b>210399</b>	7
#4	10	<b>210400</b>	7
#5	10	<b>210401</b>	7
#6	10	<b>210402</b>	7
#8	10	<b>210403</b>	7
#10	10	<b>210404</b>	7
1/4	10	<b>210405</b>	7
5/16	10	<b>210406</b>	10
3/8	10	<b>210407</b>	12
1/2	10	<b>210408</b>	14

Fastener Size	Qty / Pack	Part Number	Price \$
<b>Split Lock Washer — with Wide Gap</b>			
#2 <sup>1</sup>	20	<b>210409</b>	4
#4 <sup>1</sup>	20	<b>210410</b>	4
#6 <sup>1</sup>	20	<b>210411</b>	4
#8 <sup>1</sup>	20	<b>210412</b>	4
#10 <sup>1</sup>	20	<b>210413</b>	4
1/4 <sup>1</sup>	20	<b>210414</b>	7
5/16	20	<b>210415</b>	7
3/8	20	<b>210416</b>	10
1/2	20	<b>210417</b>	14

1. Type 316 Stainless Steel

