Astronomy

Filters and Filter Sets

CHROMA®

Capabilities

Manufacturing wavelength range:

200 – 3000nm

Spectral evaluation:

Routine transmission measurements expressed in %T across relevant spectral range

Optical and surface quality:

Research grade optical quality

Coating process:

Reactive magnetron sputtering

Coating materials:

Metal oxides and metals

Silicon oxides and silicon

Engineering:

Customized thin film coating design for custom filters

Key filter product lines:

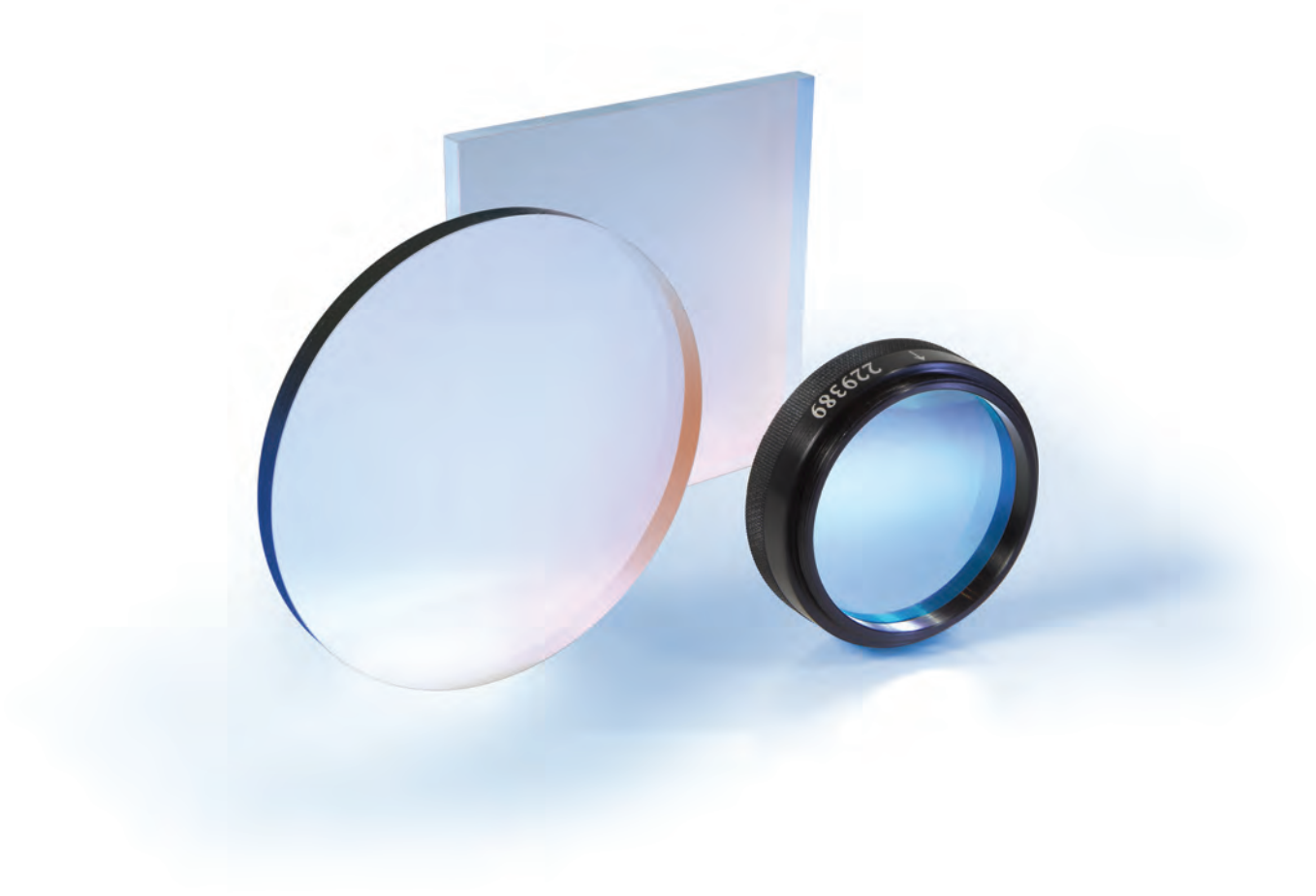
Fluorescence microscopy

Biomedical instrumentation

Raman spectroscopy

Machine vision

Remote sensing



Astronomy

Filters & Filter Sets

Extremely durable coatings withstand humidity changes and extreme temperature fluxes and remain spectrally accurate in center wavelength (CWL) and band pass adherence

No reflections leading to image distortions or "back reflections"

All Chroma Astronomy filters are coated on 3.0mm thick substrates and are parfocal with other Chroma Astronomy filters, with the exception of our LoGlow Light Pollution Filters (27030), which are manufactured on 1.1mm LCD.

All filters are manufactured with durable, sputtered hard coatings using single substrates of the best glass. All primary filter coatings are applied on the front surface and anti-reflection coatings on the rear surface to prevent ghosting and to maximize transmission.

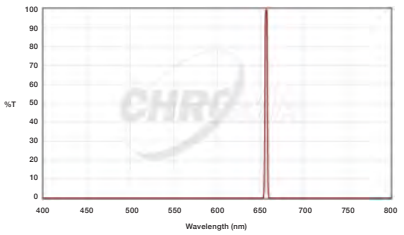
All filters manufactured in Vermont.

Astrophotography

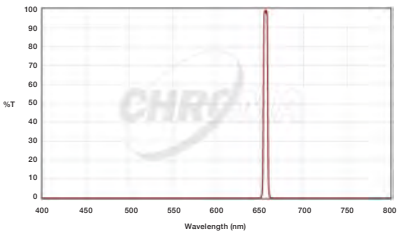
Filters & Filter Sets

Durable sputtered coatings
Thickness: 3.0mm
Filters designed for use with CCD and for f/4.0 or slower
Transmitted wavefront better than 0.25 waves/inch

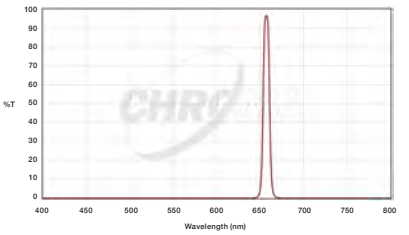
27001
H-alpha 3nm Bandpass



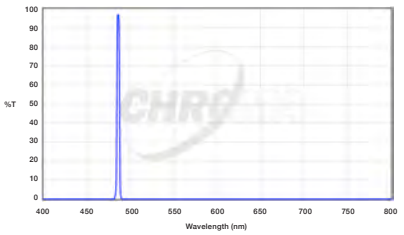
27002
H-alpha 5nm Bandpass



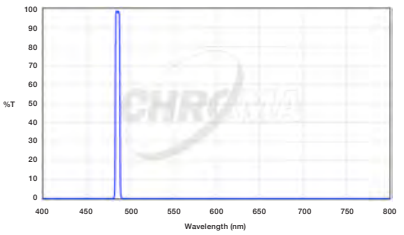
27003
H-alpha 8nm Bandpass



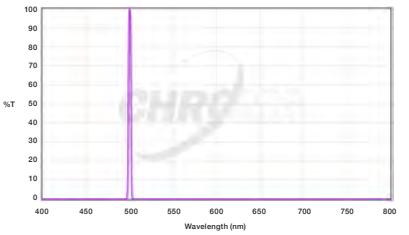
27004
H-beta 3nm Bandpass



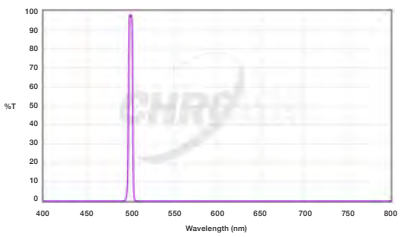
27005
H-beta 5nm Bandpass



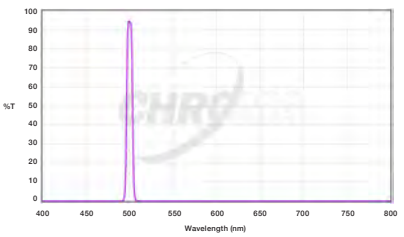
27006
OIII 3nm Bandpass



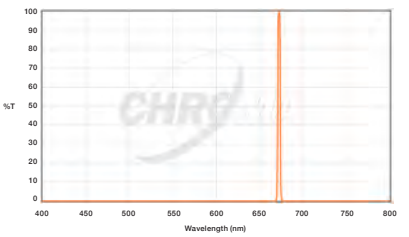
27007
OIII 5nm Bandpass



27008
OIII 8nm Bandpass



27009
SII 3nm Bandpass

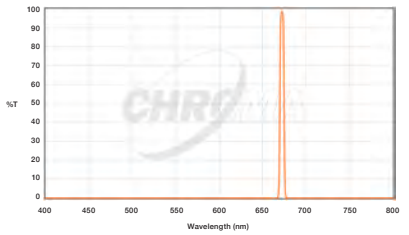


Sizing & Prices

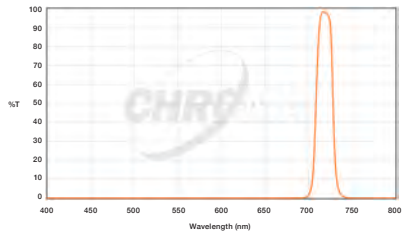
For sizes and prices on all of our astronomy filters and sets, please visit:

https://chroma.com/astronomy
or call +1-800-824-7662

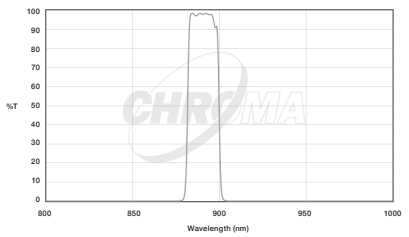
27010
SII 5nm Bandpass



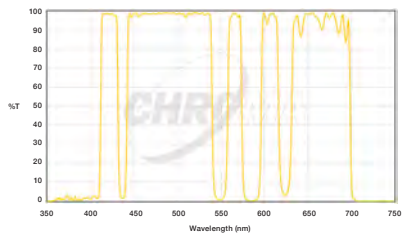
27011
SII 8nm Bandpass



27012
Jovian Methane



27030
LoGlow Light Pollution Filter



H-alpha filters are not for solar observation.

Optical filters are angle-sensitive and shift to the blue with fast focal ratios. 3nm filters shift enough to compromise transmission at the wavelength line of interest. Chroma has made a set of Ha, OIII and SII 3nm that are optimized for F/3 beams by moving the center wavelength slightly into the red so they will shift to the blue when used in an F/3 beam, thus maximizing transmission at the nominal wavelength. For beams faster than F/3, we recommend using 5nm-wide or wider bands.

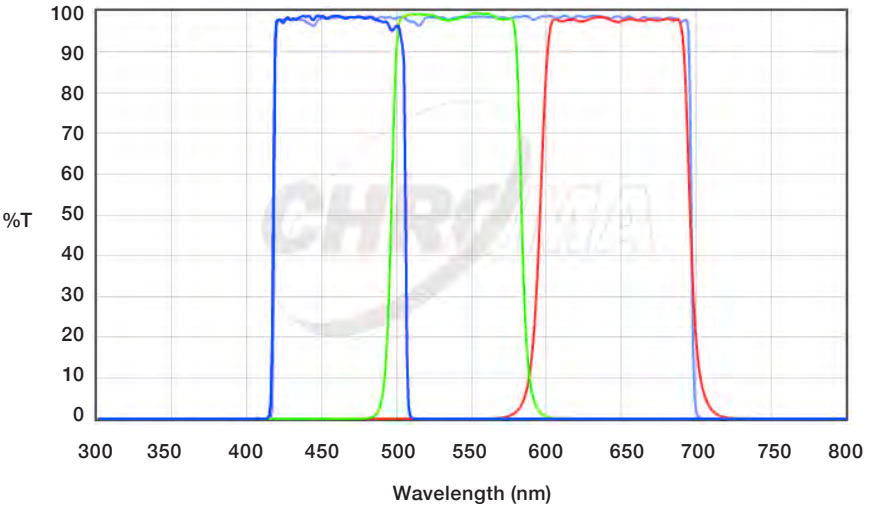
LRGB/HaLRGB

Filters & Filter Sets

Durable sputtered coatings
Thickness: 3.0mm
Filters designed for use with CCD and for f/4.0 or slower
Transmitted wavefront better than 0.25 waves/inch

27101 LRGB

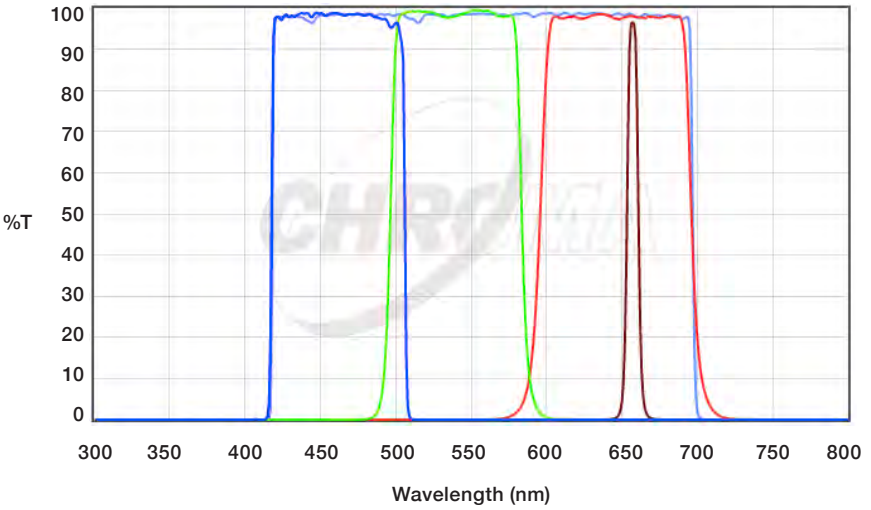
Chroma's complete LRGB filter sets include four individual filters: luminance, red, green and blue.



27102 HaLRGB

Chroma's complete HaLRGB filter sets include five individual filters: H-alpha, luminance, red, green and blue.

Graph shows 8nm H-alpha. Set is also available with 5nm and 3nm H-alpha filter

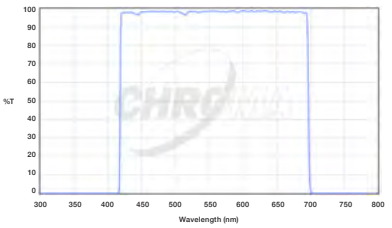


Sizing & Prices

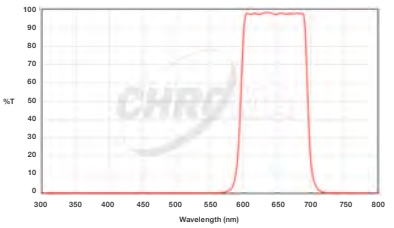
For sizes and prices on all of our astronomy filters and sets please visit:

https://chroma.com/astronomy
or call +1-800-824-7662

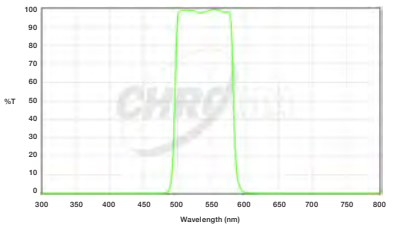
27040
Luminance



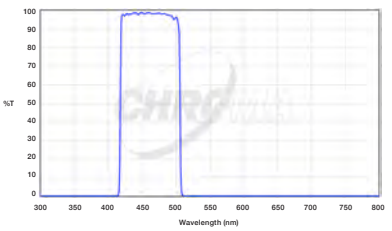
27041
Red



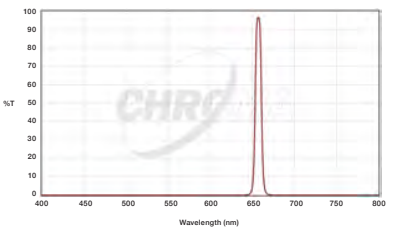
27042
Green



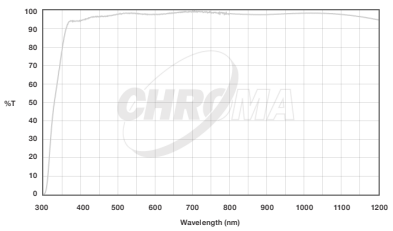
27043
Blue



27003
H-Alpha



27044
Clear

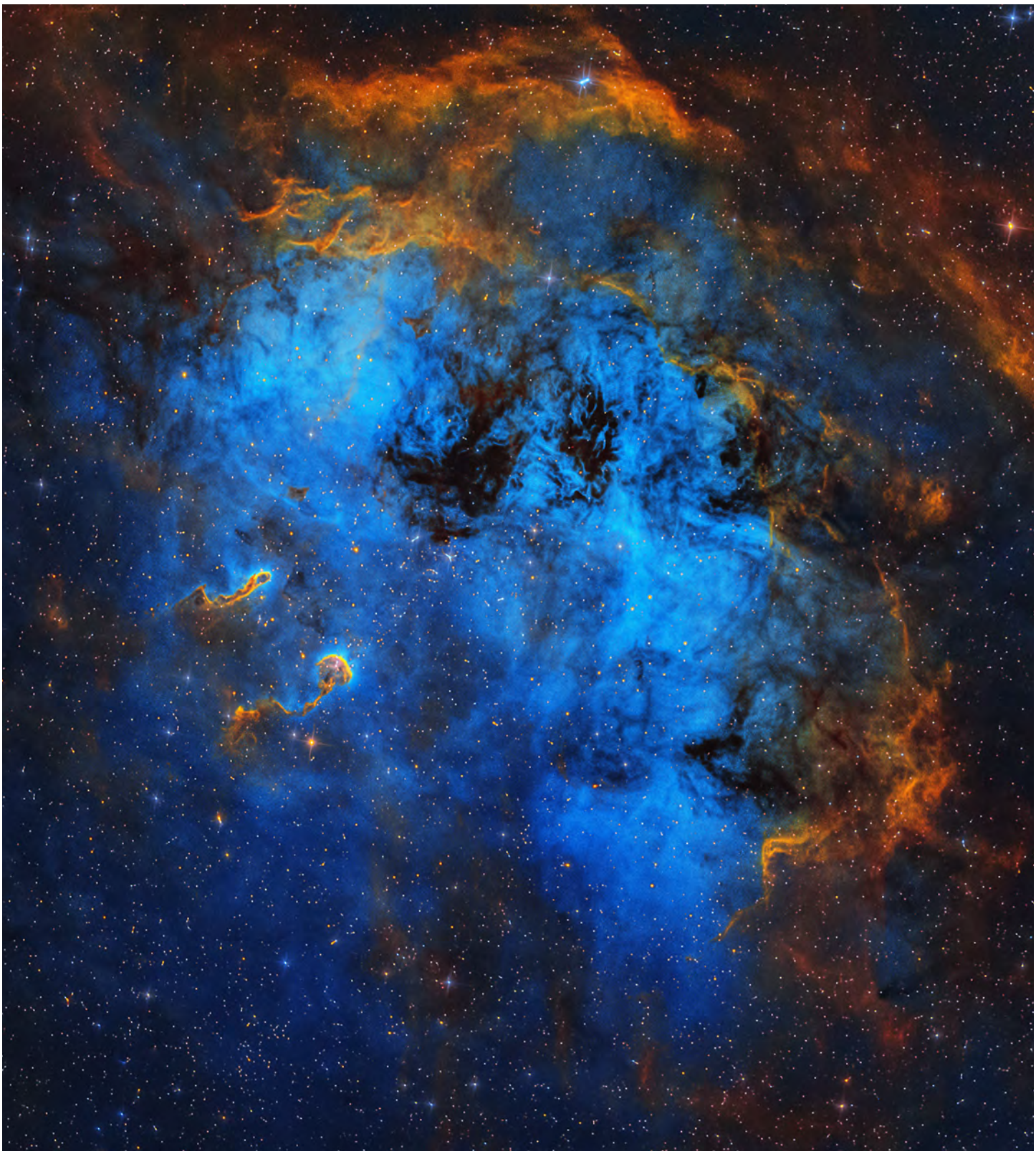


H-alpha filters are not for solar observation.

Optical filters are angle-sensitive and shift to the blue with fast focal ratios. 3nm filters shift enough to compromise transmission at the wavelength line of interest. Chroma has made a set of Ha, OIII and SII 3nm that are optimized for F/3 beams by moving the center wavelength slightly into the red so they will shift to the blue when used in an F/3 beam, thus maximizing transmission at the nominal wavelength. For beams faster than F/3, we recommend using 5nm-wide or wider bands.

Running Man Nebula: The Orion Nebula is the brightest nebula visible from the Northern Hemisphere. It's located in the sword of Orion, just below the belt, and lies 1,344 light-years from Earth. This two-panel mosaic was photographed under northern skies in Valencia. Integration four nights; Chroma Filter LRGB filters; AG14 Newtonian astrograph; camera: Starlight Xpress Trius SX-814

Photo courtesy of Paul Swift. Optical filters by Chroma Technology Corp.

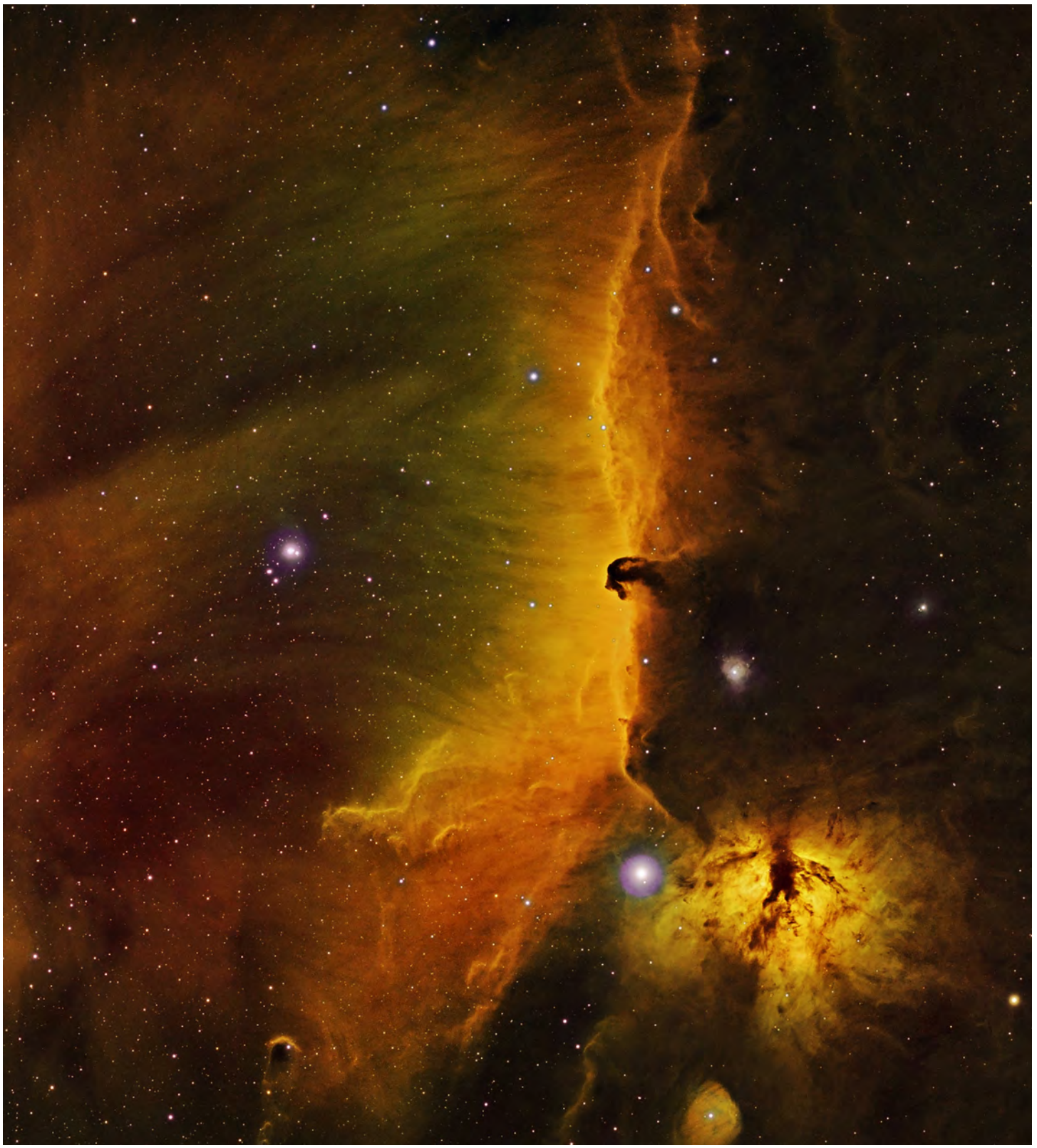


Tadpoles Nebula: Located in the constellation Auriga, this is a nebula complex is visible in the Northern Hemisphere in fall and winter. Acquiring this image with RGB would create an all red image from the ionized hydrogen gas in the nebula. But narrowing down the light into the OIII (blue) and the H-alpha (orange) bandpass produces the image as seen. An LRGB image of this area was acquired for the star colors and general information, then exposures were taken with the Chroma 5nm OIII and H-alpha filters.

Photo courtesy of Tony Hallas. Optical filters by Chroma Technology Corp.

Soul Nebula (IC 1848): Located in the Cassiopeia constellation, this is an emission nebula. The strongest signal is hydrogen alpha at 656 nm, the weaker emissions are SII (672 nm) and OIII (501 nm). The image consists of three emissions, but all structural information is in the hydrogen alpha channel with the SII and OIII adding color and contrast. It is presented in the Hubble Palette, with H-alpha mapped to green, sulfur to red, and oxygen to blue, and was acquired as a nine-hour integration.

Photo courtesy of Arun Hegde. Optical filters by Chroma Technology Corp.



Horsehead Nebula: Acquired at the Grand Mesa Observatory in western Colorado using the Holloway Takahashi 130 FSQ and QHY367C Full Frame CMOS camera. Data acquired in color + H-alpha, OIII and SII over four nights. Total integration time 20.5 hours.

Photo courtesy of Terry Hancock. Optical filters by Chroma Technology Corp.

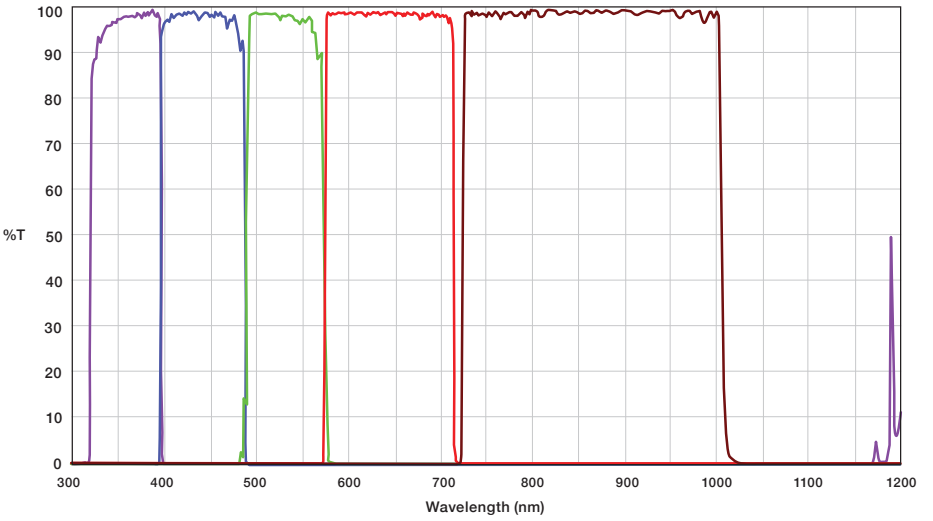
Photometry

Bessell Filters for Standard Photometric Surveys

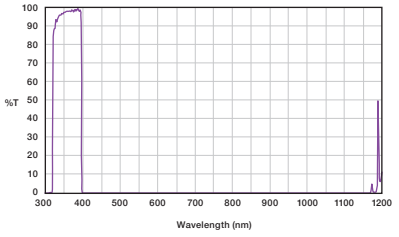
High-T Bessell Filters and Set

27103 Bessell UBVRI Filter Set

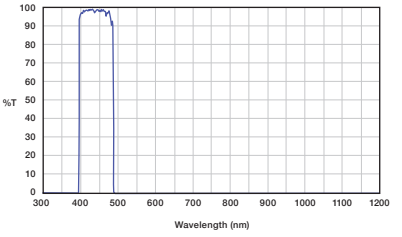
Chroma's complete Bessell UBVRI filter sets include five individual filters: U-Bessell, B-Bessell, V-Bessell, R-Bessell, I-Bessell.



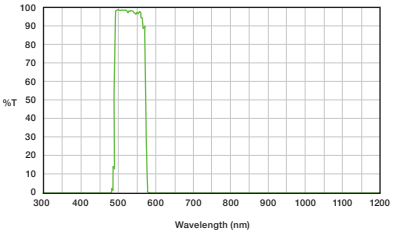
27050
U - Bessell



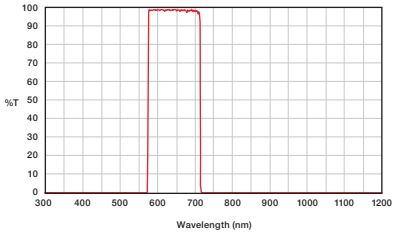
27052
B - Bessell



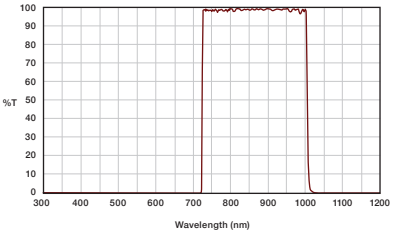
27051
V - Bessell



27053
R - Bessell



27054
I - Bessell



Sizing & Prices

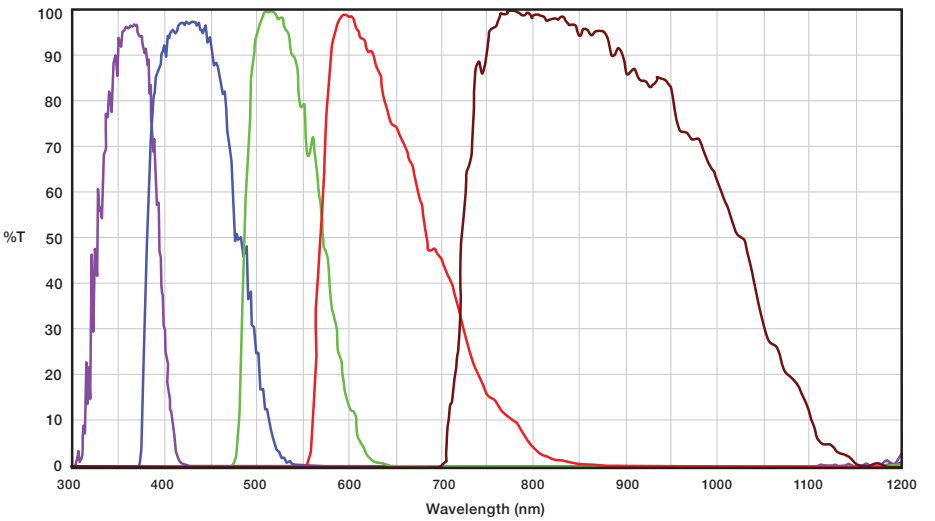
For sizes and prices on all of our astronomy filters and sets, please visit:

https://chroma.com/astronomy
or call +1-800-824-7662

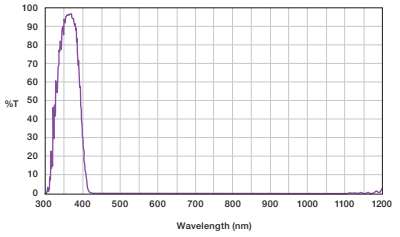
Classic Bessell Filters and Sets

27105 Classic Bessell UBVRI Filter Set

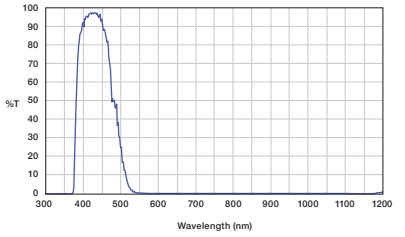
Chroma's complete Classic Bessell UBVRI filter sets include five individual filters: U-Bessell, B-Bessell, V-Bessell, R-Bessell, I-Bessell.



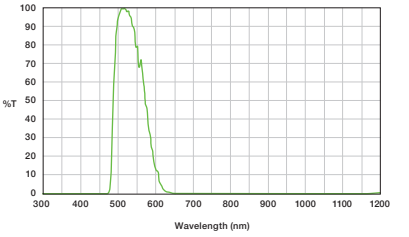
27060
U - Bessell



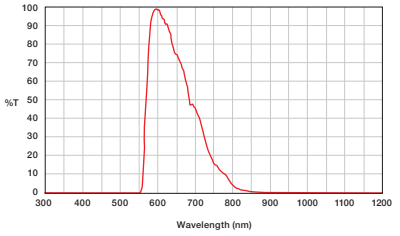
27061
B - Bessell



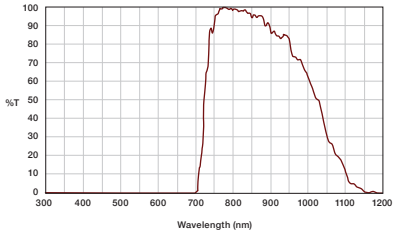
27062
V - Bessell



27063
R - Bessell



27064
I - Bessell

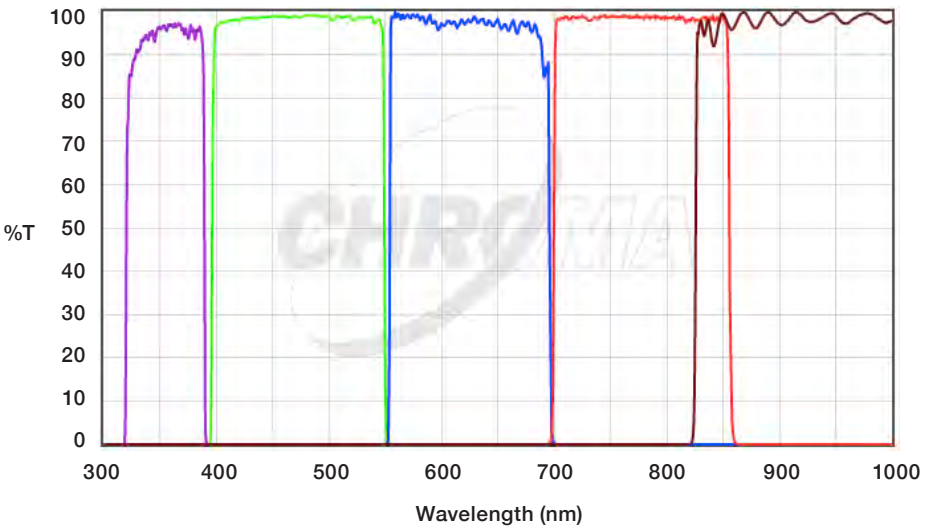


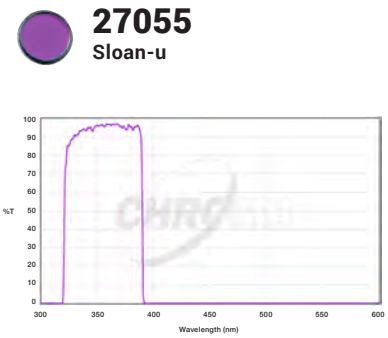
Photometry

Sloan ugriz Filters for Standard Photometric Surveys

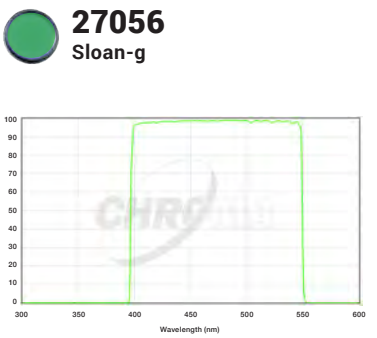
27104 Sloan ugriz Filter Set

Sloan ugriz filter set for imaging based on the Sloan photometric survey



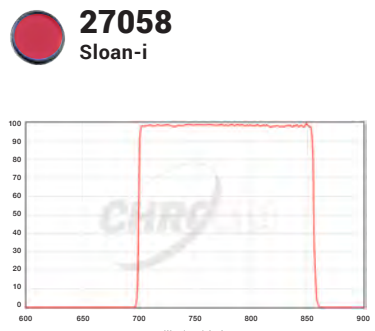


27055
Sloan-u

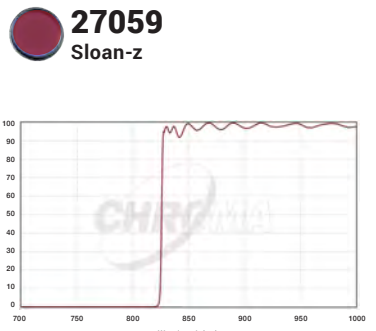


27056
Sloan-g

27057
Sloan-r



27058
Sloan-i



27059
Sloan-z

Sizing & Prices

For sizes and prices on all of our astronomy filters and sets, please visit:

https://chroma.com/astronomy
or call +1-800-824-7662

About Chroma

Founded in 1991 as a 100% employee-owned company, Chroma Technology is a leading manufacturer and OEM supplier of highly precise optical filters using thin-film coating technology. Our reputation is built on our dedicated customer service, including free technical and applications support. We remain committed to serving the scientific and technical communities in their pursuit of the scientific endeavor.

Easy Online Ordering
Visit www.chroma.com to order online.

Ordering by Phone
Call +1-802-428-2500 or +1-800-824-7662

Lifetime Warranty

Terms:
Net 30 days
FOB: Chroma Technology, Bellows Falls, VT

An Employee-Owned Company
Producing the World's Finest Optical
Filters and Filter Sets

Chroma Technology Japan
8F Yokohama Onoecho Building
4-57 Onoecho Naka-ku
Yokohama 231-0015 Japan
Phone: +81 (0) 45 285 1583
Fax: +81 (0) 45 285 1501
japan@chroma.com

Chroma China
Rm 803, Building No.16
Yuanbo Wuli
Xingjin Road, Jimei District
Xiamen City, Fujian Province 361021,
China
Phone: +86-0592-5062089
china@cn.chroma.com

US Corporate Headquarters
10 Imtec Lane
Bellows Falls, VT 05101 USA
info@chroma.com
Tel: +1-800-824-7662
+1-802-428-2500

Chroma Technology
GmbH
Maximilianstrasse 33
D-82140 Olching, Germany
europe@chroma.com
Tel: +49-8142-2847525

May 2022