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## Searches for the Higgs boson decay in W boson pairs in ppbar collisions at $\sqrt{s}=1.96$ TeV

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We present searches for a standard model Higgs boson decaying into W boson pairs and produced either via the gluon fusion process or in association with an additional W or Z boson. Different decay topologies are considered, exploiting both leptonic and hadronic decays of the W boson. The final states considered are two leptons, both with equal and opposite charges, final states with three or more leptons, and final states in which one or two of the W bosons decay into jet pairs. These decay channels are used to cover the entire mass region between 120 and 200 GeV. Data corresponding to the entire Run 2 sample collected with the D0 detector at the Fermilab Tevatron collider are used in these searches.

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